

DOCUMENT RESUME

ED 169 225

CE 019 415

TITLE Pre-Service Teacher Training in Career Education.
Final Report, July 1, 1975 through June 30, 1976.

INSTITUTION Georgia Univ., Athens. Coll. of Education.

SPONS AGENCY Office of Career Education (DHEW/OE), Washington,
D.C.

BUREAU NO 554AH50078

PUB DATE 30 Sep 76

GRANT G007502393

NOTE 126p.; Some pages in this document will not reproduce
well due to faint, broken type; For related documents
see ED 114 586 and ED 120 411

EDRS PRICE MF01/PC06 Plus Postage.

DESCRIPTORS *Career Education; *Curriculum Development;
Demonstration Programs; Elementary Secondary
Education; Instructional Materials; Interdisciplinary
Approach; *Preservice Education; Program Development;
Program Evaluation; *Teacher Educator Education;
Teaching Methods; *Teaching Skills

IDENTIFIERS Education Amendments 1974; Georgia

ABSTRACT

The College of Education at the University of Georgia attempted during 1975-76 to infuse a career education emphasis into existing teacher preparation programs. First, an interdisciplinary team produced a transportable model package to use in staff development for teacher educators. Included in this multi-media package are (1) an instructor's study guide to the package, (2) needs assessment instruments; and (3) readings, audio-visuals, and charts to give an overview of the world of work, of the current status of career education in the U.S., of the University of Georgia model, of teaching strategies, of reviews of curriculum materials, and of evaluation in career education. Next, the team identified and described competencies for implementing career education in grades K-12. These competencies focus on the four following student learner outcomes: understanding self in relation to careers, making career-related decisions, relating education to careers, and learning about work and occupations. Seven undergraduate professional courses were then restructured to include career education concepts, and alternative strategies were developed for teaching the concepts. An evaluation of the project was conducted, and it was found that prospective teachers who participated in the courses with a career education emphasis reported a more favorable attitude toward career education than did those in control classes. (EIG)

* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *

ED169225

FINAL REPORT TO U.S.O.E.

Pre-Service Teacher Training in Career Education

Grant Number G007502393

College of Education

University of Georgia

Athens, Georgia 30602

September 30, 1976

Alex F. Perrodin

Project Director

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY.

CE 019 415

CAREER EDUCATION PROJECT
FINAL REPORT

1. <u>Project Number</u> 554AH50078	2. <u>Grant Number</u> G007502393	3. <u>Nature of Report</u> Final
4. <u>Project Title</u> Pre-Service Teacher Training in Career Education	5. <u>Period Covered by this Report</u> From July 1, 1975 to June 30, 1976	
6. <u>Category of Project</u> Training		
7. <u>Name of Director</u> Alex F. Perrodin		
8. <u>Name and Address of Institution</u> University of Georgia College of Education Aderhold Building Athens, Georgia 30602 Phone 404-542-3003		

9. Major Activities:

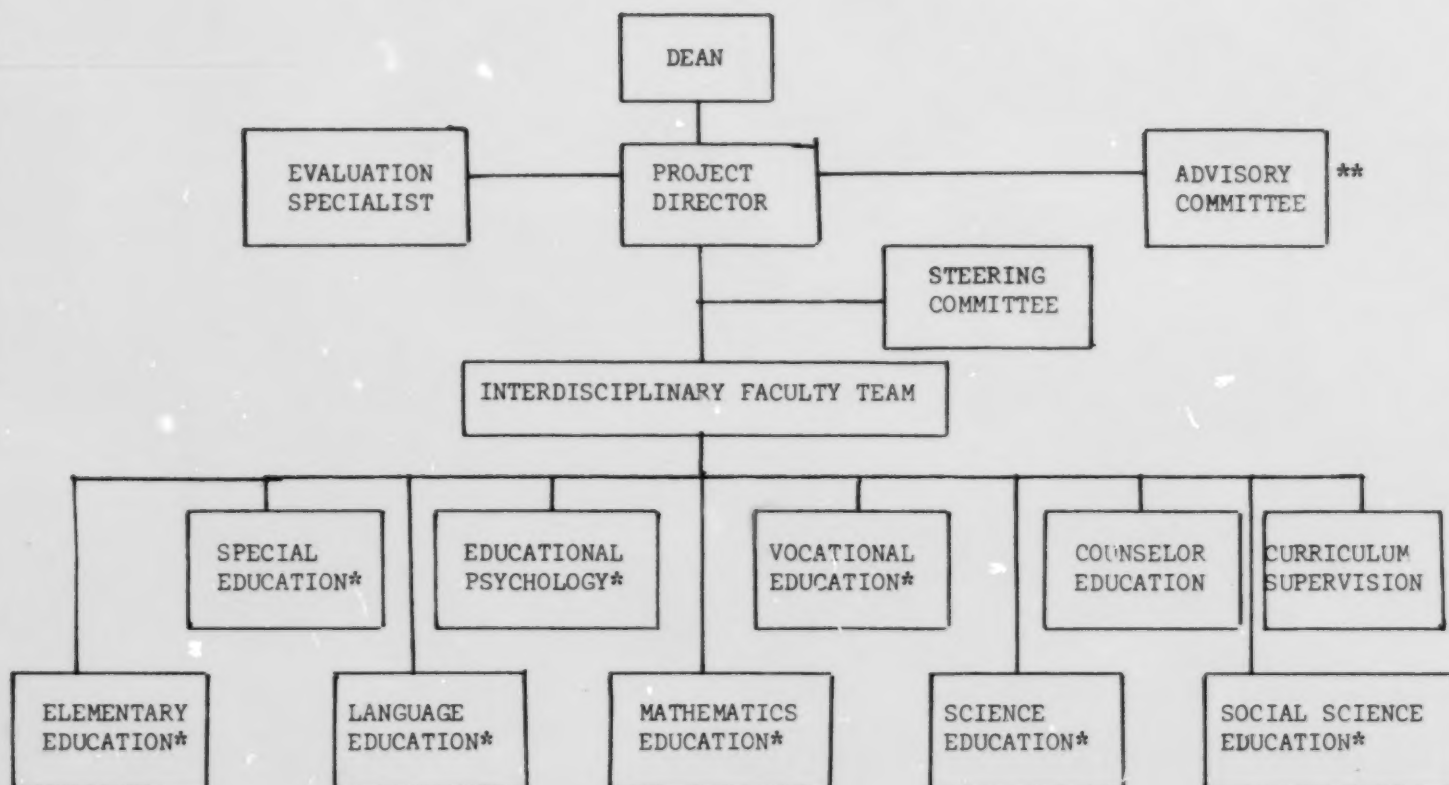
With a grant from the U.S. Office of Education, the College of Education, University of Georgia, engaged in a project during 1975-76 to infuse a career education emphasis into existing teacher preparation programs. The project was based upon the premise that rather than add another subject to the curriculum, or another specialized teacher to the school, career education can best be achieved by assisting classroom teachers (K-12) to infuse career education concepts in the instructional program when and where such instruction is appropriate.

The major objectives of the University of Georgia Pre-Service Training in Career Education Project in 1975-76 were:

1. *An interdisciplinary team of teacher educators will develop a career education staff development model for teacher educators.*
2. *The interdisciplinary team of teacher educators will identify, list, and describe teacher competencies necessary to implement career education in the elementary and secondary schools.*
3. *Members of the interdisciplinary team will re-structure undergraduate professional education courses to include career education concepts and will develop alternate strategies for teaching these concepts.*
4. *Prospective teachers enrolled in the courses taught by the interdisciplinary team members will acquire career education competencies appropriate to their grade level and/or area of teaching specialization.*

On July 1, 1975 the project was initiated with a project director, a steering committee, an advisory board and an interdisciplinary faculty team as shown on Figure 1. (Appendix A lists names of these participants.)

In preparation for the achievement of objectives one and two the project staff members were engaged in a series of career education staff development activities during the Fall Quarter. These included sessions with resource persons as follows: October 1, Edwin C. Herr, Chairman of Counselor Education, The Pennsylvania State University, spoke on "History and Foundations for Career Education"; October 8, W. Wesley Tennyson, Professor, Educational Psychology, University of Minnesota, spoke on "The University of Minnesota Career Development Model"; October 15, Samuel H. Osipow, Professor of Psychology, The Ohio State University, spoke on "Theory and Research on Career Development"; October 22, Gene Bottoms, Director of Division of Program and Staff Development, Georgia State Department of Education spoke on "Career Education, The State's Role"; October 22, Ben Nash, Coordinator of Career and Vocational Education, Northeast Georgia Cooperative Educational Service Agency and Jerry Purser, Director, Vocational-Technical Education, Clarke County School District spoke on "Models for Career Education in the Public Schools - Competencies Needed for Teachers"; October 29, George O'Kelley, Chairperson, Division of Vocational Education, College of Education presented his views on "Career Education as Differing from Vocational Education". October 29, Richard Granum, Asst. Professor, Adult Counseling, Georgia Center for Continuing Education spoke on "Career Education from the Counselor's View"; John Dagley and Duane Hartley, and Ila Rooks, Assistant Professors of Counselor Education, College of Education spoke on "Career Education: Beliefs,



* Undergraduate teaching fields in which career education concepts are infused.

.....

**An Advisory Board of representatives from public education, the Georgia State Department of Education, the USOE Regional Office, business, labor, and the community at large provide guidance to the project.

Figure 1 Project Organization

Programs, Resources on our Campus". Also, on October 29 six members of the Advisory Board spoke to the project staff. Peter Argo (Labor), Evelyn Neely (Minorities), Dunbar Harrison (Banking), Jack Semler (Industry), Walter Denero (Government), and Allen Stephenson (Chamber of Commerce) spoke on "Career Education and the Local Community". November 5 Ellen Lyles, Career Education Program Officer of the Atlanta U.S.O.E. Office talked on "Exemplary Career Education Projects in the Southeast - Competencies Needed for Teachers". Debera Sharpe, Consultant, Career Education, Georgia State Department of Education spoke on "Georgia Career Education Projects and Competencies Needed for Teachers". Billy Ware, Coordinator, Counselor Education Projects, Pioneer Cooperative Educational Services Agency spoke on "Career Education Needs Assessment and Competencies Needed for Teachers".

In summary, three nationally recognized authorities in Career Education, six consultants or coordinators of career education programs from Georgia and the southeast, six representatives of the community, and five University of Georgia faculty served as resources to the project staff during October and November.

At the same time as these sessions were underway each project staff member was provided with quantities of printed resource materials totalling over 1,000 pages. Team discussion type meetings were held on October 22 and November 5 in preparation for a three day off-campus session November 12-14.

7 The project staff considered several definitions of career education and arrived at the following definition as expressing most clearly the

views of the team in October of 1975:

CAREER EDUCATION is defined as "a concept that supports relevant and accountable education. It attempts to provide all learners with the knowledge, skills, and strategies to perform their various life roles - as students, paid or non-paid workers, family members, and citizens. As such, it promotes personalizing of immediate experience and planning for the future through community involvement, greater flexibility and variety of learning approaches, including both individual and group activities."

A decision was made by the team that teacher competencies needed to infuse career education in regular classrooms K-12 should be derived from the desired student learner outcomes in a K-12 program with a career education emphasis. The team examined a variety of sources of student learner outcomes in career education including those published by W. Wesley Tennyson and colleagues at the University of Minnesota; the Texas list BASIC LEARNER OUTCOMES FOR CAREER EDUCATION; a U.S.O.E. list from AN INTRODUCTION TO CAREER EDUCATION; a Georgia list OBJECTIVES FOR GOALS OF EDUCATION IN GEORGIA; lists from South Carolina, Nevada, Arizona, Hawaii, Oregon, Wisconsin; the Teacher's Guide to BREAD AND BUTTERFLIES; The Ohio State University, Center for Vocational Education publication CAREER EDUCATION PERSONNEL DEVELOPMENT list.

From these sources and the judgment of team members a K-12 CAREER DEVELOPMENT MATRIX was developed in November 1975, revised in February 1976, and revised again in June 1976. The student learner outcomes on the matrix are arranged under four categories - 1) Understanding Self in Relation to Careers, 2) Making Career Related Decisions, 3) Relating Schooling to Careers, and 4) Learning About Work and Occupations. For each of the categories learner outcomes are listed by school level, A.) Primary, B.) Intermediate, C.) Middle School, and D.) High School. (See Appendix B, p.4-5)

These on-campus sessions with consultants, independent reading, and team planning sessions were followed by a three day off-campus team session, November 12-14, 1975. The purpose of these sessions was to achieve project objective #2 *"The interdisciplinary team of teacher educators will identify, list, and describe teacher competencies necessary to implement career education in the elementary and secondary schools."* Prior to the sessions the project director contacted each state coordinator of career education to obtain whatever lists of teacher competencies they might have developed. The replies of the state coordinators indicated that most states had not yet developed competency lists for teachers. Team members did review the Florida list of nine teacher competencies for each grade level K-14 (Panhandle Area Educational Cooperative, P.O. Drawer 190, Chipley, Florida 32428); a list of 105 from the publication "Career Education Personnel Development - Ideas for University Planning" (Center for Vocational Education, Ohio State University, 1960 Kenny Road, Columbus, Ohio 43210); and a list of 12 from Gene Bottoms, State of Georgia Career Education Coordinator.

Dr. Wilford A. Weber, Professor, University of Houston served as consultant to the team as an authority on competency-based teacher preparation programs. For this project the following definition of a teacher competency was recognized by the project team.

"A teaching competency in career education is a conceptualization by some authority about what effective teachers do as a professional effort to facilitate the attainment of the objectives of career development for their pupils."

The word "do" in this definition includes knowledge and attitudes.

One assumption made at this point was that the prospective teacher will develop the following general teaching competencies prior to or concurrently with his development of career education teacher competencies:

- A. *determines the needs of the learner*
- B. *plans activities for the learner*
- C. *selects appropriate materials for instruction*
- D. *employs a variety of teaching strategies appropriate to the situation*
- E. *employs a variety of evaluative procedures appropriate to the situation*
- F. *utilizes feedback to improve his professional competence.*

The team then developed a list of four competencies needed by teachers who would attempt to help learners achieve the outcomes included in the K-12 Career Development Matrix. The prospective teacher will be able to:

Competency I - ASSIST STUDENTS TO DISCOVER THEIR CHARACTERISTICS (WHAT AM I LIKE?), TO UNDERSTAND REASONS FOR THESE CHARACTERISTICS (WHY AM I THAT WAY?), TO SEE WAYS IN WHICH THESE CHARACTERISTICS CAN BE CHANGED (HOW CAN I CHANGE), AND TO SEE WAYS IN WHICH THESE CHARACTERISTICS ARE CAREER RELATED.

Competency II - ASSIST STUDENTS TO UTILIZE PROBLEM-SOLVING SKILLS IN MAKING CAREER DECISIONS.

Competency III - ASSIST STUDENTS TO SEE AND DEVELOP CLEAR RELATIONSHIPS BETWEEN WHAT THEY ARE BEING ASKED TO LEARN IN SCHOOL AND POTENTIAL FUTURE CAREERS.

Competency IV - ASSIST STUDENTS TO DEVELOP CAREER-RELATED PERSONAL AND INTERPERSONAL SKILLS.

The next team activity was the development of a description of each of these competencies. (See Appendix B, p. 6-14)

Figure 2 shows the conceptual base for the project activities preliminary to achievement of project objectives two, three and four. Beginning with the research on career development and socio-economic factors

the project staff developed a K-12 Career Development Matrix and a list and description of generic career education teacher competencies. As Figure 2 indicates the next step was to generate teacher learning objectives necessary to attainment of the four competencies. This was begun at the November 12-14, 1975 off-campus sessions and continued on campus, with a list of 76 generic learning objectives prepared by December 29, 1975.

A card sort procedure was utilized to determine those objectives deemed to be most essential. Members of the Advisory Board and the project staff sorted the 76 objectives first into two groups - "usable" and "questionable". The "usable" stack was then resorted into "more usable" and "less usable". The sorting process eliminated 25, leaving 51 objectives which the project staff grouped as appropriate with the four teacher competencies.

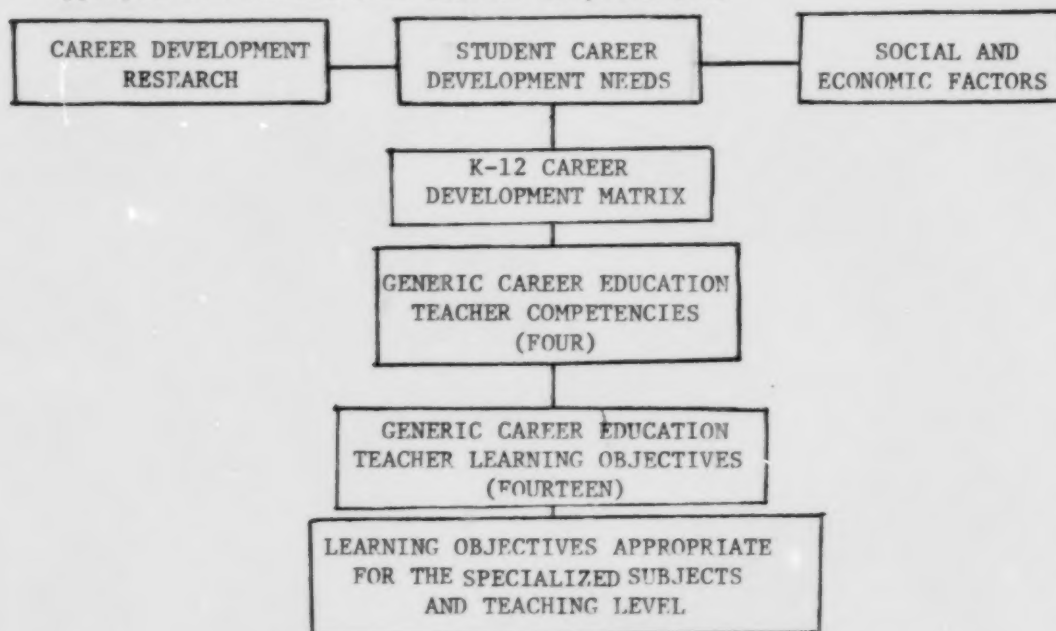


Figure 2
Conceptual Framework Leading to Attainment of Project Objectives 2, 3, and 4.

These 51 received further study and on February 16, 1976 the project staff through consolidation and editing accepted a list of 14 generic teacher learning objectives related to the four teacher competencies. (See Appendix B, p.15-16)

With the completion of the listing and describing of desired teacher competencies needed to implement career education in the elementary and secondary schools, the teaching faculty were enabled to proceed to the next step - the development of teacher learning objectives for the specialized subjects and teaching level. Objective #2 had been met, *The interdisciplinary team of teacher educators will identify, list, and describe teacher competencies necessary to implement career education in the elementary and secondary schools.*

Work then proceeded towards the attainment of Objective 3 during the period January 2, 1976 to March 15, 1976. During this period course outlines for the following courses were revised to include career education concepts:

- EPY 304 - Learning and Motivation
- EEL 334 - Principles and Practices of Elementary Education
- EAG 335 - Curriculum Planning in Agricultural Education
- ESS 336 - Teaching Procedures in Secondary Social Sciences
- ESC 339 - Elementary Science Methods
- EEN 346-7-8 - Student Teaching in English
- EXC 508 - Curriculum Development for the Teaching of the Mentally Retarded

The revised course outlines and descriptions of alternate teaching strategies are available in the project publication entitled "Helping Prospective Teachers Attain Career Education Teacher Competencies".

Throughout the year activities related to Objective Number One continued. On January 7, 1976, a conference phone call was conducted with

Dr. Kenneth Hoyt, Associate Commissioner for Career Education of the U.S. Office of Education and the members of the project staff,

Three directors of exemplary school-based career education projects came to the campus, reviewed the project, and shared with the team activities of the school projects which had relevance to the pre-service preparation of teachers. Gary Haaby (Greeneville, Tennessee), H. Dale Holden (Columbia, South Carolina) and John D. Moore (Monroe, North Carolina) served as consultants on the recommendation of Ellen Lyles of the U.S.O.E. Atlanta Regional Office.

Project staff visited career education projects in Louisville and Bowling Green, Kentucky; Dallas, Texas; New Orleans, Louisiana and three school sites in Georgia - Crisp County, Rockdale County, and DeKalb County. The purpose of these visits was to insure that plans made for pre-service courses were relevant to the needs of in-service teachers. The DeKalb County visit also provided information on the identification and assessment of generic teacher competencies which had been identified as essential for teacher certification.

In addition to school-based career education project visits, the project staff visited three industries employing large numbers of area residents -- Westinghouse Electric, General Time, and Reliance Electric. These visits enabled project staff to observe and confer with workers and personnel office managers and staff as to the views of labor and management on career education.

Dr. Betty Newlon, College of Education, University of Arizona, served as a consultant to the project, April 1-2 by visiting the campus, reviewing

the project activities, and sharing procedures used at the University of Arizona.

Members of the project staff were enabled to attend meetings of national professional groups as a part of the staff development plan. Meetings attended by one or more participants included the National Vocational Association in Anaheim, California; the National Council of Teachers of English in San Diego, California; the National Council of Teachers of Social Studies in Atlanta; the Second Career Education Forum in Washington, D.C.; the American Educational Research Association in San Francisco, California; an AERA conference on project evaluation at Tampa, Florida; the Association for Supervision and Development at Miami, Florida; the Conference on Teaching of English in Milwaukee, Wisconsin; the National Science Teachers Association in Philadelphia, Pennsylvania, and the American Association of Colleges of Teacher Education in Chicago, Illinois.

These experiences -- use of consultants, readings, review of curriculum materials, site visits to career education projects and to local industries, participation in meetings of national associations, along with independent study, discussion sessions with colleagues -- were selected to contribute to the staff development in career education of the teacher educators in the project. From their own experiences during 1975-76 the staff proposed a model for a transportable career education staff development package for teacher educators. (Objective One)

The transportable model which has been developed includes:

A. INSTRUCTOR'S STUDY GUIDE

This is a self-study plan for a teacher educator who wishes to revise a pre-service teacher education program to include an emphasis on career education competencies. It can also be used as a framework for a teacher-educator faculty work-conference on career education. The contents of the GUIDE include nine terminal objectives, and sections on: Establishing a Rationale for Career Education; Developing a Perspective of the World of Work; Examining the Implementation of Career Education in the Public Schools; Reviewing the Procedures Used at the University of Georgia.

B. Seven envelopes of supplementary reading and reference materials accompany the GUIDE as well as five project publications:

- 1) CAREER EDUCATION: SELECTED READINGS FOR THE TEACHER EDUCATOR. 153 p.
- 2) DISCOVERING AND USING THE STRENGTHS OF THE DISADVANTAGED AND CULTURALLY DIFFERENT IN CAREER EDUCATION by E. Paul Torrance. 117 p.
- 3) FUTURE PROBLEM SOLVING AND CAREER EDUCATION by E. Paul Torrance. 74 p.
- 4) HELPING PROSPECTIVE TEACHERS ATTAIN CAREER EDUCATION TEACHER COMPETENCIES. 343 p.
- 5) SOCIODRAMA IN CAREER EDUCATION by E. Paul Torrance. 45 p.

C. The model also requires the use of ten non-print items - audio tapes, slide-tape sets, video-tape, and 16 m.m. films. These are available on a loan basis to users of the GUIDE, but are not included with this final report due to bulk and costs.

With the development of this multi-media package Objective One was achieved. *"An interdisciplinary team of teacher educators will develop a career education staff development model for teacher educators."*

Between March 15 and June 1, 1976 a total of 162 prospective teachers were enrolled in courses for a total of over 300 teacher contact hours which sought to develop one or more of the four teacher competencies of the U.Ga. model. The classes included the course "Learning and Motivation", curriculum and methods courses in the subject fields, and the student teaching or professional quarter in the schools. A report of the career education emphasis and activities in each of these courses is included in the project publication entitled HELPING PROSPECTIVE TEACHERS

ATTAIN CAREER EDUCATION TEACHER COMPETENCIES. For the data to support the achievement of Objective Number Four, see the section of this report on "Evaluation".

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
OFFICE OF EDUCATION
WASHINGTON, D.C. 20202

CAREER EDUCATION PROGRAM
PARTICIPANT SUMMARY

NOTE: Participants include those DIRECTLY served by the project or, in the case of most parents and persons in the business, labor/industry community, who actively assist in project implementation. "Actively assist" includes efforts such as serving as resource persons, serving on Advisory Groups, providing work experience, etc.

FORM APPROVED
OMB NO. 51-R-1187

NUMBER OF PARTICIPANTS (see NOTE above) WHO ARE	RACE/ETHNICITY (all Participants including Handicapped, Gifted and Talented, and Low Income)						OF THE TOTAL (column (6)) NUMBER WHO ARE			OF THE TOTAL (column (6)) NUMBER WHO ARE	
	AMERICAN INDIAN OR ALASKAN NATIVE	ASIAN OR PACIFIC ISLANDER	BLACK/ NEGRO	CAUCASIAN/ WHITE	HISPANIC	TOTAL (sum of columns (1) through (5))	HANDI- CAPPED	GIFTED AND TALENTED	LOW INCOME	MALE	FEMALE
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
STUDENTS											
ELEMENTARY (K-6)											
MIDDLE/JUNIOR HIGH (7-9)											
SENIOR HIGH (10-12)											
2-YEAR COLLEGE											
4-YEAR COLLEGE	0	0	2	166	0	168				52	116
ADULTS (non-atticulated)											
SUB-TOTAL			2	166		168					
EDUCATIONAL PERSONNEL											
TEACHERS (Univ. Fac. & Grad. Assists.)				28		28				20	8
COUNSELORS				6		6				5	1
ADMINISTRATORS				8		8				7	1
MEMBERS OF THE BUSINESS/ LABOR/INDUSTRY COMMUNITY			1	3		4					
PARENTS				2		2					
OTHER (specify)											
TOTAL			3	213		216					

11. Evaluation Summary (This section was prepared by Paul Wood and Marcia Perry, the project evaluation specialists.)

The project in Career Education at the University of Georgia for 1975-76 year accomplished its major task as demonstrated in the evaluation reports, instructional reports, and program description included in the final report.

A staff development model in career education was developed and is available for tryout with college teaching staff. Materials for use in teaching courses in Educational Psychology, Elementary Education, Special Education, Language Education, Science Education, Social Science Education and Vocational Agriculture with the objective of infusing career education concepts into the professional education courses were developed and tried out with students in these courses.

The staff presented a more homogenous view of career education as a result of the staff development activities and demonstrated greater knowledge about the role of career education in educational institutions at the conclusion of the project. The students who participated in career education orientated classes reported more favorable attitudes about career education after participating in these special classes. The increase in students' knowledge about career education was demonstrated in the reports on content area courses.

The advisory committee consisting of business, industrial, labor, minority, professional and public agency representatives had a valuable role in the project as it created communication channels between these representatives and the academic staff.

The administration of the project received the support of its staff and was described as very positive by the entire staff.

The staff who participated in the project did not appear to be a typical group of college instructors in their respective subject areas.

Rather they were apparently selected because of their tenure at the University, their influential positions within their respective departments, and their reputations as productive, cooperative, task oriented faculty members. These above characteristics were evident throughout the duration of the project.

In reviewing the accomplishments of this project several problem areas arose.

The subject area of mathematics was in essence eliminated due to sudden illness of the professor assigned to the project. The faculty member could not be replaced as it was expected that he would return to his duties following surgery. In the meantime his department provided part-time participation by four other staff members.

Several project staff members complained of not having enough time to accomplish all they would like on this project. Some of this pressure was due to the faculty member's department not being able to find qualified assistants to relieve the faculty member of certain assigned responsibilities.

Another problem area concerning project goals was the development of a list of teacher competencies in the area of career education. Although considerable staff effort was exerted, it appears that the product consists of four generic competencies with a list of somewhat less definitive tasks listed under each major category. This product may be the most useful outcome when one attempts to utilize a multidisciplinary college staff as resource persons but it lacks the behavioral definition essential for collection of objective evaluation data.

A fourth problem area that had the most negative influence on project staff was the failure to receive a continuation of funds for the project. The unanimous willingness of this highly selected staff to participate in the next year's proposed activities was remarkable. Many felt they had just begun on a series of development activities related to infusion of career education concepts into higher educational institutions, when they had to return to other departmental and college responsibilities resulting in somewhat negative attitudes about the funding agency. Such attitudes may even transfer to their attitude about career education in general. The question funding sources should seriously review, concerns the value of what is termed in research a "one-shot" and in this case "one-year" studies to their long range objectives. On a project such as this one the evaluation staff questions the rationale behind such funding. With the same amount of support funded over a three year period of development, applied to fewer content areas, if necessary, the expectation is that such funding over a longer time span would result in a more efficient and lasting impact on the target institution.

11a. Summary of Pre and Post Interviews With Project Staff

A list of questions was constructed and submitted to the project steering committee for their reactions and suggestions. The revised list was then asked each of the instructional staff by an evaluator in a personal tape recorded interview of approximately thirty minutes duration in September and again in June. Concepts discussed by these staff members were lifted from the typed transcripts of these interviews and are listed below under each of the questions.

In reviewing these concepts, it became apparent that there had been considerable change in knowledge about career education and the attitudes about the role of career education in institutions of learning between the pre and post interviews. Considering that initially the majority of the instructional staff was somewhat indifferent toward the concept of career education, statements such as "infusion of skills and knowledge necessary for success in life", "beginning in preschool and continuing forever", and "sound education" in response to Question One on the post interview illustrate complete infusion of career education into their philosophy of education. Again on Question Two post interviews are statements supporting career education as ". . . things that help one to live", "life planning", and "deals with all my concerns and endeavors". On Question Three concerning career education priorities post interview responses included statements such as "a way of reforming education" and reorganizing the school into learning centers. In response to Question Five on the post interviews the answers appeared in the expected direction as more specific

and definite career education outcomes. The change from pre to post on this question is illustrated with pre statements such as "teach developmental facts" and "test and measurement types of skills" to post statements such as "ability to see implications" and "decision making process".

As a result of the pre interviews the interviewer described the instructional staff as consisting of several members very concerned about career education, several indifferent and several displaying some negative attitudes. On the post interviews, the interviewer's conclusions were that only one staff member would be classified in the "questionable" or "indifferent" category with the remaining staff displaying very favorable attitudes about career education.

11a. (Continued)

List of Concepts From

Pre - Post Interview Questions

Question One

What does the term Career Education mean to you?

PRE

Professional working

Make world of work a consideration
in every other aspect of school
program

Development of vocational skills

Development of attitudes
Perseverance
CitizenshipHelping children identify areas of
work they would be interested in

Making occupational choices

Developing concepts about world
of work

Total development of child

Career Education - What I do
with my lifeSelf-Knowledge
Self-AwarenessIndoctrinate kids to idea that
they should workPOSTApplication of knowledge of discipline
to careerDevelopment of skills necessary for
success in lifePlanning one's self in relationship
to occupation and life itself

Job and career information

Curriculum fashioned around careers

Development of life style

Finding adjustment to life

Aspect of Education related to one's
life plans and activityCE= All decisions one has to make about
living

Self understanding

Infusion of skills and knowledge necessary
for success in lifeBeginning in preschool and continuing
forever

Sound Education

Understanding of cultural factors that
make them the way they are

Question Two

Difference Between Vocational Education and Career Education

PRE

Vocational Education

Making occupational choices
 Finding a vocation
 Development of one's
 occupation
 Development of skills
 Preparing for occupation
 Definite process of development
 of experience in a given field

A separate entity
 A narrowing down
 Narrower

Career Education

General background
 An overview

Broader

More effective

A way of looking at occupations
 of types of work

POST

Vocational Education

Job entry training
 Education leading to success on job
 Skill development
 Job preparation
 Skill for working

Narrow facet of C.E.
 Encompassed in C.E.

Career Education

Defined in terms of things that help
 one to live (decision making,
 problem solving)
 Life planning
 Preparing for living
 Deals with all my concerns and
 endeavors
 Embraces all of education
 More attitudinal

Question Three

What Are Career Education Priorities For Educational System?

PRE

Teaching children about the future
(Equip them with skills, attitudes
abilities for coping with future)

Learn ways of finding out (research
skills)

Training in decision making

Have person know who he is

Have person know what relates to
success

Have person know about values -
his and others

An education

Intrinsic motivation for learning

Attitude of doing well what one does

Introduce children to people who
work with ideas as well as product

POST

Thinking about the future
Teach and practice skills in creative
problem solving

Problem solving

Decision making
Assist in decision making

Self-awareness
Helping person discover who he is

Personal planning
Helping person discover what he wants
to become and how he can get that way

Develop skills such as interaction
with people

Preparing teachers, administrators, and
the public to understand and support C.E.

Reorganization of school into learning
centers

A way of reforming education

Basic information about career opportuni
Become aware of world of work

Acquaint ourselves as to what occurs in
the process of C.E.

Question Four

What are some of the more effective strategies for incorporating career education into the instructional program of educational institutions?

PRE

Community of political support
Political and social understanding
and encouragement
Need to consult with business, service
organizations, and professional
community who will be using those
we train (attuned to what is needed)

Teacher understanding and knowledge
of C.E.

Redefine basic purpose of education
to prepare students to exist as
self-respecting persons and
contributing member of society

Individualizing education - start
from student outlook

Look at the type of people we are
training

Use C.E. to make course content
relevant

Use as motivation

Need to get standards against which
to evaluate from world of work

Problem solving skills

Skills for finding out about future

Help students realize their value as
an individual

Identify competencies and infuse them
into particular course

POST

More involvement of community
in our school
In High School get students into
community

Impose C.E. from above (administrators)

Reorganization of schools

Reorganizing subject matter so it
has more relevance and meaning
for student

Relate subject matter to real life
experience

Attitudinal, affective domain devel.

Teach every teacher to carry out
a deliverable cratibe problem
solving process (herein lies fusion)

Practicing seeing implications

Individuals concept of their own
personal qualities

Infusion of C.E. into subject matter
Complete infusion of C.E. into total
school program

Infuse C.E. into on going program in
school
Infusion

Start at primary level

Synthesis of knowledge and skills
inherent in discipline

Question Five

What do you feel are the important concepts to incorporate in your preservice course?

PRE

Relating our work to careers

Attitudinal development

Train teachers to analyze needs
and skills of jobs and train
kids to do these jobs

Project what people will be
doing in the future

Teach developmental facts
(What to expect of children
of different ages and stages
of development)

Understanding and development
of thinking skills

Development of child - physical
and values

Be aware of possibilities around
them in teaching

Tests and measurements types of
skills

Prediction and extrapolation

Creative problem solving

POST

Self-awareness - Self understanding
Work habits and attitudes
Attitude that what I do is important

Knowledge about careers that exist in
one's field

Help child learn who he is and why he
is the way he is

See discipline-related things used in
leisure time

Process skills developed in discipline
can be adapted to solving other problems

Ability to see implications

Decision making process

Decision making

Problem solving

Creativity

Integration of curriculum (without dichotomizing academic and vocational)

Help child understand how he relates to world around him

11b. Summary of Project Feedback Information

Positive Comments

1. The activity which received most favorable response from the staff as well as the advisory committee was the informal report of a panel of students who had participated in the classes designed to infuse career education into their career. Comments such as "Infusion has actually taken place in this project; all the way to the student" were made.
2. Another activity which received total positive response was the 'off campus' work conference for project staff held in late fall. Any negative comments were limited to suggestions that the conference should have been held earlier.
3. A third activity that received almost total positive comments including recommendations for future staff activities were the visits to career education project in the public schools and to local industries.
4. Project administration received continuous positive comments on feedback forms describing the administration as efficient, organized, supportive, and systematic.
5. Selected consultants received very favorable response from the project staff. The most positive responses were received from the staff for consultants who represented public school projects in career education, the consultant at the work conference, and state department resource personnel. The staff conference call with Ken Hoyt had almost total positive response with a number of staff suggesting conference calls as a viable alternate to on site consultants.
6. The advisory committee gave continuous positive feedback to the project staff at each session held for this committee. Although, certain

members made negatively toned comments about education in general such as "teachers don't understand the free enterprise system," they were very positive in their comments about this project and its staff. Some typical comments were: "On Course-Your doing great" and "Progress appears to be on schedule; Career education concepts in course of study appear to be appropriate."

7. The project staff felt very positive about a number of the books, films, and other instructional materials that were made available to them through the project. Marland's text Career Education: A Proposal for Reform and the Bread and Butterflies materials, were listed frequently.

Negative Comments

1. The most negative reaction of the project staff was the concern over project continuation due to the uncertainty of long range goals. The comments included such statements as "What a waste, to spend all this effort for development and then not being supported to carry through." The considerable effort in writing a proposal and then having to wait four or five months to receive feedback (which appeared questionable) also had a negative effect on staff attitudes.
2. Due to college of education responsibilities several staff members reported a need for more time to devote to the career education project task.
3. A majority of the staff reported negative comments concerning several of the initial consultants. The perceived interference of outsiders attending these open sessions with consultants was also reported by a number of staff.

11b. (Continued)

Samples of Feedback Forms

Advisory Board Feedback Information Form

Consultant Evaluation Feedback Form

Mid-Point Evaluation-Feedback On Staff Development
Activities

Winter Quarter Summary Feedback

ADVISORY BOARD FEEDBACK INFORMATION FORM

1. Do you feel that the purposes of this session were clear?
2. Do you feel this session served a worthwhile function? Could the objectives have been accomplished in a more efficient manner? Please give your recommendations.
3. Do you feel that the roles defined for the advisory board are appropriate? If not, how should they be changed?
4. Is the representativeness on the advisory board sufficient? If not, what additions or changes would you recommend?
5. Are there any additional comments that you would like to add concerning this session?

CONSULTANT EVALUATION FEEDBACK FORM

Check one of the
following:

Staff team _____
Student Assist. _____
Visitor _____

1. Did you attend: The morning presentation? _____
The afternoon discussion? _____

2. Did you read the articles by Dr. Osipow distributed to the
project staff before attending these sessions? _____

If not, do you plan to read them now? _____

If yes, do you feel that Dr. Osipow's presentation and
discussion were worthwhile above and beyond the reading
of his paper? _____ Comments:

3. Do you have comments on the quality and helpfulness of
the morning presentation?

4. Do you have comments on the quality and helpfulness of
the afternoon discussion?

5. Did you find the use of the index cards helpful? _____

If not, do you have any recommendations for alternate
procedures?

MID-POINT EVALUATION-FEEDBACK ON STAFF DEVELOPMENT ACTIVITIES

1. Of all the various activities you have participated in on this project, what do you consider to be

- a) the most helpful activity(ies)?

- b) the least helpful activity(ies)?

2. Of all the various resource materials made available to you, what have you found to be the most valuable?

3. Now that you have experienced a wide range of resource people, do you have any summative comments about their overall or individual effectiveness?

4. a) Have you seen yourself going through any identifiable stages in your thinking about career education as you have participated in this project? _____ If so, please describe them.

- b) Do you have any recommendations for facilitating such changes more effectively?

5. What do you see as the next priorities for
a) project staff?

- b) you personally as a project staff member?

6. Do you have any recommendations or suggestions concerning project
a) Facilities

b) Management

c) Evaluation

7. If we were starting this project over, what would you recommend
that we do differently?

WINTER QUARTER SUMMARY FEEDBACK

Which of the following activities did you participate in during winter quarter?

- ☐ Conference call to Dr. Ken Hoyt
- ☐ Working on list of competencies
- ☐ Advisory committee meeting
- ☐ Meeting with consultants visiting our campus

Visits:

Local job situations

- ☐ Westinghouse
- ☐ General Time
- ☐ Reliance

Projects within the state

- ☐ Crisp County
- ☐ Rockdale County
- ☐ Dekalb County

Out of state career education project sites

- ☐ (Please list the sites) _____

What other activities did you do winter quarter in connection with the project?

Which of the above activities do you think were the most helpful and why?

Which of the above activities do you think were the least helpful and why?

Which of the above activities would you recommend be included in next year's staff development model?

Were there any resources that you found helpful that you would like to recommend to the rest of the staff or for use in the staff development model?

Were you pleased with progress made during winter quarter on project objectives? _____ If not, what do you feel would have been of more assistance to you?

Do you have any recommendations concerning project activities for spring quarter including any assistance you might need?

11c. Pre and Post Multidimensional Scaling of Career Education

Staff Based on Attitudes About Career Education

TORSCA 9, Nonmetric MDS Computer Program

The questions and statements from the study guide accompanying the draft of "An Introduction to Career Education" (Hearings Before the Subcommittee on Elementary, Secondary, and Vocational Education of the Committee on Education and Labor, House of Representatives. Washington, D.C.: U.S. Government Printing Office #54-7830, May 20, 1975. pp. 27-45.) were given to the three members of the steering committee who then made a judgement as to their appropriateness. These questions and statements had been presented to over 275 local career education practitioners, state department of education professional staff and national leaders who then responded yes-no to the appropriateness of the statement as a policy of HEW, yeilding a "high degree of consensus" among these leaders in the field of career education. The 95 items that the steering committee agreed were appropriate were divided into three instruments: The Career Education Position Survey, Programmatic Assumptions of Career Education, and Career Education Task and Task Assignment. Each item on the first two instruments was rated on a five level scale (strongly agree, agree (needs only minor revision), mildly agree (needs major revision), neither agree nor disagree, disagree). The scaling bias in the direction of agreement was due to the positive nature of the elements used. A greater variability in terms of agreement rather than agreement/disagreement was anticipated. Each item on the latter instrument was rated on a four level scale (agree with task and assignment, agree with task but not with assignment, disagree with task, no opinion.)

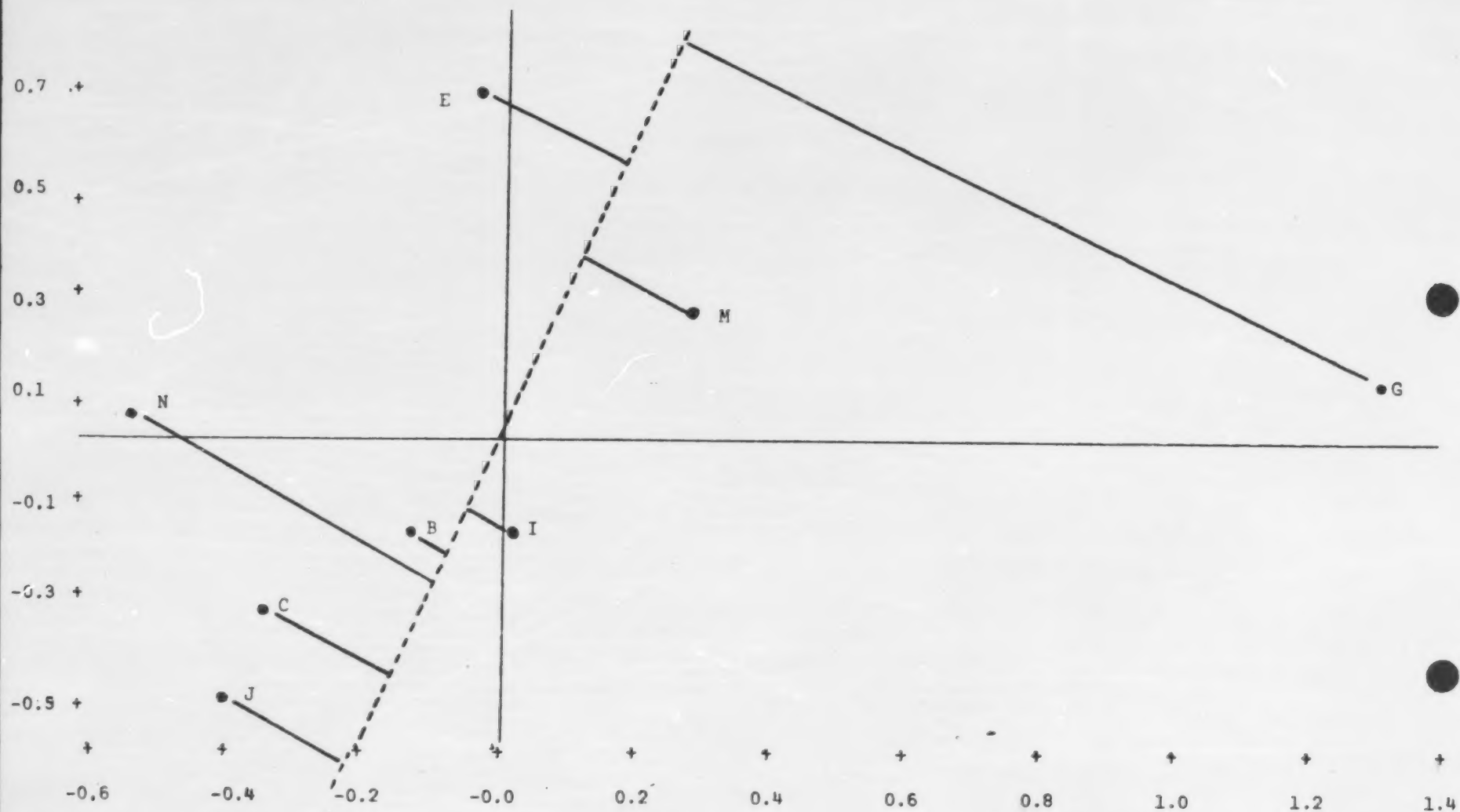
The input was an 8x8 proximity matrix (actually a dissimilarity matrix) between eight members of the staff team. Each member had responded to 95 items on a four or five point scale and so could be represented by a 95 dimensional vector whose components were 1, 2, 3, 4, or 5. In case of omissions the mode response for that item was used. The Euclidean distance between pairs of individuals i and j was used as the measure of the dissimilarity, d_{ij} .

Pre Analysis

A perfect MDS solution related to an $n \times n$ proximity matrix (measuring the proximities between stimuli) can always be found in $n - 1$ dimensions. In MDS there is always an effort to find an adequate fit in as few dimensions possible. One index of fit is Kruskal's stress value which ranges in value from 0 to 1, with 0 indicating a perfect fit. The stress values for 1, 2, 3, and 4 dimensional solutions in our case were .161, .043, .005, and .004 respectively. This indicates that the three dimensional (and four) is almost perfect and that the two dimensional solution is excellent. Since 13 stimuli should be used in determining three dimensional solutions and 8 or 9 stimuli for a two dimensional solution, it is reasonable to concentrate on the two dimensional solution as we try to give interpretation to the configuration.

In the TORSCA -9 program the axes in the print-out have no importance. Figure 1. The configuration may be rotated, translated, reflected, or uniformly expanded or contracted. A subjective interpretation that one may give would be related to the three clusters determined by their projections on the rotated axis (dashed line). Cluster I contains two people who had previous experience and training in vocational education and came to the project with extensive backgrounds related to career

FIGURE I



TORSCA 9 Subject Space
Pre Data

education. Cluster II contained three individuals of varied academic interests but who were enthusiastic about the project. Cluster III contains three individuals who had the greatest questions about the project and career education.

Post Analysis

One member of the project dropped out for health reasons. (Subject G) Therefore the pre-project data was reanalyzed excluding this member. Figure II. The three clusters mentioned above were retained with the same members belonging to their original clusters. The stress for two dimensions has .028 indicating a good fit between the input data and the interpoint distances in reconstructed configuration.

At the end of the project seven members participating in the pre-project analysis above rated to the same 95 items (continued in The Career Education Position Survey, Programmatic Assumptions of Career Education, and Career Education Task and Task Assignment) on a four or five point scale. Again their responses determined a 95 dimensional vector whose components were 1, 2, 3, 4, or 5. The Euclidean distances between these vectors i and j was used as the dissimilarity, d_{ij} , between individuals i and j . The dissimilarity matrix was used as input in the TORSCA-9 multidimensional scaling program. The two-dimensional reconstructed configuration may be seen in Figure III.

Only two clusters appear in the reconstructed configuration. This might be interpreted as showing that the members of the group became more homogeneous through their experiences in the project. Dimension 1 might be interpreted as a positive-negative dimension related to attitudes toward the infusion of career education into the curriculum for pre-service

teachers. The individual, E, retained his negative attitude toward this infusion. Individual M was originally in the negative cluster but moved toward agreement with the majority. Other observations including staff interviews support this positioning.

FIGURE II

TORSCA 9 SUBJECT SPACE PRE DATA

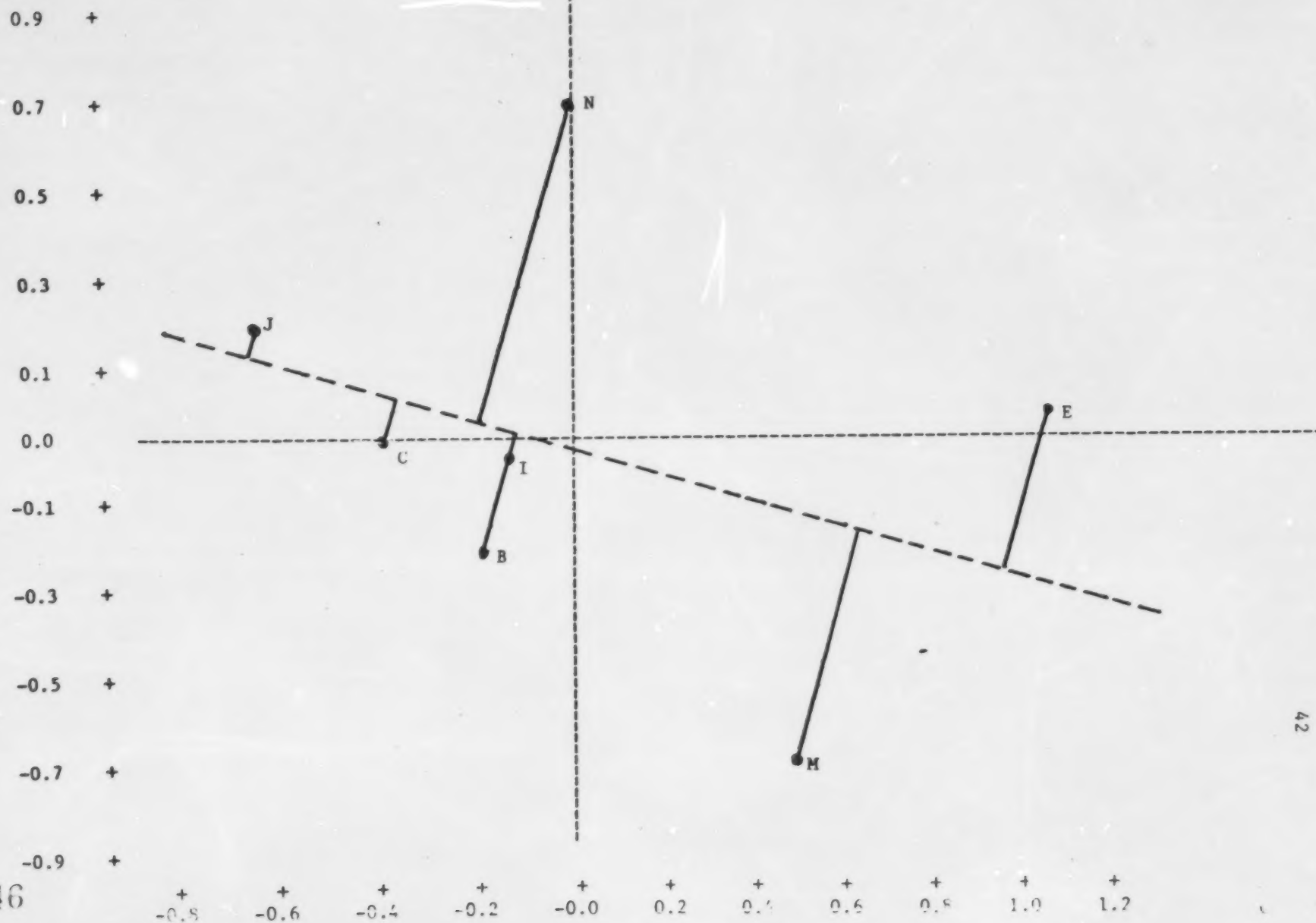
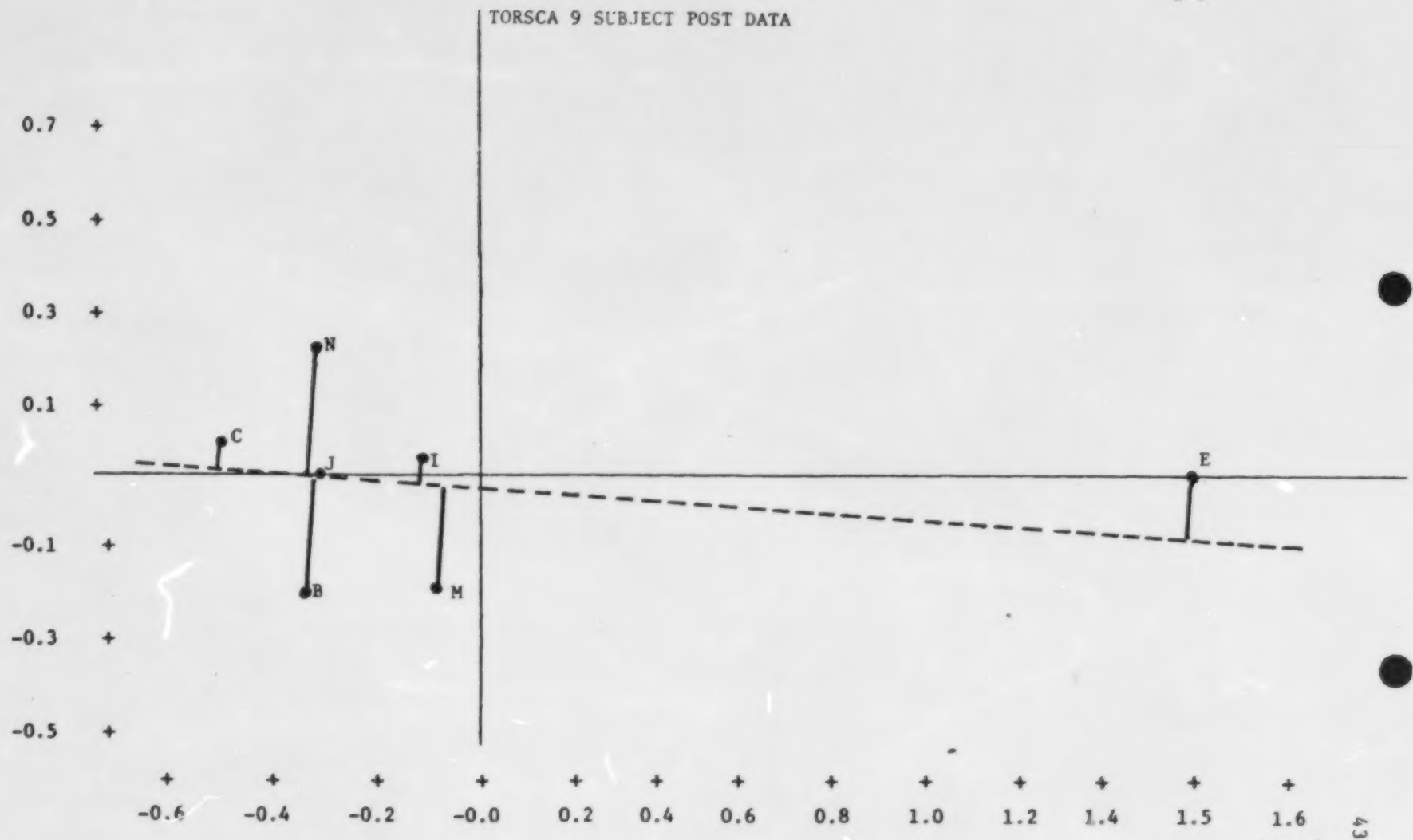


FIGURE III

TORSCA 9 SUBJECT POST DATA



Career Education Position Survey

44

Please respond to the following items using the five categories below by placing the appropriate rating in the blank beside each item.

Rating

1. Strongly agree
2. Agree (needs only minor revision)
3. Mildly agree (needs major revision)
4. neither agree, nor disagree
5. disagree

1. To what extent do you agree with the following justifications for the career education movement?

- _____ 1. Too many persons leaving our educational system are deficient in the basic academic skills required for adaptability in today's rapidly changing society.
- _____ 2. Too many students fail to see meaningful relationships between what they are being asked to learn in school and what they will do when they leave the educational system. This is true of both of those who remain to graduate and those who drop out of the educational systems.
- _____ 3. American education, as currently structured, best meets the educational needs of that minority of persons who will someday become college graduates. It has not given equal emphasis to meeting the educational needs of that vast majority of students who will never be college graduates.
- _____ 4. American education has not kept pace with the rapidity of change in the post-industrial occupational society. As a result, both over-educated and under-educated workers are present in large numbers. Both the boredom of the over-educated worker and the frustration of the under-educated have contributed to the growing presence of worker alienation in the total occupational society.
- _____ 5. Too many persons leave our educational system at both the secondary and collegiate levels unequipped with the vocational skill, the self-understanding and career decision-making skills, or the desire to work that are essential for making a successful transition from school to work.
- _____ 6. The growing need for presence of women in the work force has been adequately reflected in neither the educational nor the career options typically pictured for girls enrolled in our educational system.

(1 = SA, 2 = A, 3 = MA, 4 = MAND, 5 = D).

- _____ 7. The growing needs for continuing and recurrent education on the part of adults are not being adequately met by our current systems of public education.
- _____ 8. Insufficient attention has been given to learning opportunities outside of the structure of formal education which exist and are increasingly needed by both youth and adults in our society.
- _____ 9. The general public, including parents and the business-industry-labor community, has not been given an adequate role in formulation of educational policy.
- _____ 10. American education, as currently structured, does not adequately meet the needs of minority, nor of economically disadvantaged persons in our society.
- _____ 11. Post high school education has given insufficient emphasis to educational programs at the sub-baccalaureate degree level.

2. To what extent do you agree with the following definitions:

- _____ 1. **Work:** defined as conscious effort aimed at producing benefits for oneself and/or for others.
- _____ 2. **Career:** defined as the totality of work one does in his or her lifetime.
- _____ 3. **Career education:** defined as the totality of educational experiences through which one learns about work.
- _____ 4. **Education:** defined as the totality of experiences through which one learns.

3. To what extent do you agree with each of the 10 basic concepts listed as follows:

- _____ 1. Since both one's career and one's education extend from the preschool through the retirement years, career education must also span almost the entire life cycle.
- _____ 2. The concept of productivity is central to the definition of work and so to the entire concept of career education.
- _____ 3. Since "work" includes unpaid activities as well as paid employment, career education's concerns in addition to its prime emphasis on paid employment, extend to the work of the student as a learner, volunteer workers, and full-time homemakers, and to work activities in which one engages as part of leisure and/or recreational time.
- _____ 4. The cosmopolitan nature of today's society demands that career education embrace a multiplicity of work values, rather than a single work ethic, as a means of helping each individual answer the question "Why should I work?"
- _____ 5. Both one's career and one's education are best viewed in a developmental, rather than a fragmented, sense.

(1 = SA, 2 = A, 3 = MA, 4 = MAND, 5 = D)

- _____ 6. Career education is for all persons--the young and the old; the mentally handicapped and the intellectually gifted; the poor and the wealthy; males and females; students in elementary schools and in the graduate colleges.
 - _____ 7. The societal objectives of career education are to help all individuals (a) want to work, (b) acquire the skills necessary for work in these times, and (c) engage in work that is satisfying to the individual and beneficial to society.
 - _____ 8. The individualistic goals of career education are to make work (a) possible, (b) meaningful, and (c) satisfying for each individual throughout his or her lifetime.
 - _____ 9. Protection of the individual's freedom to choose and assistance in making and implementing career decisions are of central concern to career education.
 - _____ 10. The expertise required for implementing career education is to be found in many parts of society and is not limited to those employed in formal education.
4. To what extent do you agree with the priority choices given as tentative examples that follow:
- _____ 1. In-service education needs of currently employed educational personnel should take precedence over efforts to change preservice personnel programs.
 - _____ 2. Efforts at the elementary and secondary school levels should take precedence over efforts at the post-secondary school levels.
 - _____ 3. Efforts aimed at educational administrators should take precedence over aimed at instructional and guidance personnel.
 - _____ 4. Efforts aimed at instructional and guidance personnel should receive equal emphasis.
 - _____ 5. Efforts at implementing career education in all school systems should take precedence over supporting further massive demonstration efforts.
 - _____ 6. Efforts aimed at implementing career education and at supporting further basic research in career education should receive equal emphasis.
5. In your opinion, how appropriate for use in evaluation of career education is each of the learner outcomes listed below:
- _____ 1. Competence in the basic academic skills required for adaptability in our rapidly changing society.
 - _____ 2. Equipped with good work habits.
 - _____ 3. Capable of choosing and who have chosen a personally meaningful set of work values that lead them to possess a desire to work.

(1 = SA, 2 = A, 3 = MA, 4 = NAMD, 5 = D)

- _____ 4. Equipped with career decision making skills, job hunting skills, and job getting skills.
- _____ 5. Equipped with vocational skills at a level that will allow them to gain entry into and attain a degree of success in the occupational society.
- _____ 6. Equipped with career decisions that they have made based on the widest possible set of data concerning themselves and their educational-vocational opportunities.
- _____ 7. *Aware* of means available to them for continuing and recurrent education once they have left the formal system of schooling.
- _____ 8. Successful in being placed in a paid occupation, in further education, or in a vocation that is consistent with their current career education.
- _____ 9. Successful in incorporating work values into their total personal value structure in such a way that they are able to choose what, for them, is a desirable lifestyle.
- _____ .6. In your opinion, how justified is the contention that while much more research is obviously needed, it seems safe to say that we know enough right now to justify the organization and implementation of comprehensive career education programs?
- _____ 7. In your opinion, how justified is the assertion that, to the greatest possible extent, initiation of career education programs should be undertaken utilizing ~~existing~~ personnel and existing physical facilities?
- _____ 8. To what extent do you agree with the position that not all students should be equipped with a marketable job skill by the time they leave the secondary school?
- _____ 9. To what extent do you agree with the viewpoint that the call for educational reform cannot be answered simply through initial implementation of career education programs--rather, that it will require major basic educational policy changes?

(1 = SA, 2 = A, 3 = MA, 4 = MAND, 5 = D)

Programmatic Assumptions of Career Education 48

To what extent do you agree that each of the following programmatic assumptions that have been made concerning career education is valid. Please respond using the five categories given below by placing the appropriate rating in the blank beside each item.

Rating

1. Strongly agree
2. Agree (needs only minor revision)
3. Mildly agree (needs major revision)
4. Neither agree. nor disagree
5. Disagree

- _____ 1. If students can see clear relationships between what they are being asked to learn in school and the world of work, they will be motivated to learn more in school.
- _____ 2. There exists no single learning strategy that can be said to be best for all students. Some students will learn best by reading out of books for example, and others will learn best by combining reading with other kinds of learning activities.
- _____ 3. Basic academic skills, a personally meaningful set of work values, and good work habits represent adaptability tools needed by all persons who choose to work in today's rapidly changing occupational society.
- _____ 4. Increasingly, entry into today's occupational society demands the possession of a specific set of vocational skills on the part of those who seek employment. Unskilled labor is less and less in demand.
- _____ 5. Career development, as part of human development, begins in the pre-school years and continues into the retirement years. Its maturational patterns differ from individual to individual.
- _____ 6. Work values, a part of one's personal value system are developed, to a significant degree, during the elementary school years and are modifiable during those years.
- _____ 7. Specific occupational choices represent only one of a number of kinds of choices involved in career development. They can be expected to increase in realism as one moves from childhood into adulthood and, to some degree, to be modifiable during most of one's adult years.

- _____ 8. Occupational stereotyping currently acts to hinder full freedom of occupational choice for both females and for minority persons. These restrictions can be reduced, to some extent, through programmatic intervention strategies begun in the early childhood years.
- _____ 9. Parent socio-economic status acts as a limitation on occupational choices considered by children. This limitation can be reduced, to a degree, by program intervention strategies begun in the early years.
- _____ 10. A positive relationship exists between education and occupational competence, but the optimum amount and kind of education required as preparation for work varies greatly from occupation to occupation.
- _____ 11. The same general strategies utilized in reducing worker alienation in industry can be used to reduce worker alienation among pupils and teachers in the classroom.
- _____ 12. While some persons will find themselves able to meet their human needs for accomplishment through work in their place of paid employment, others will find it necessary to meet this need through work in which they engage during their leisure time.
- _____ 13. Career decision making skills, job hunting skills, and job getting skills can be taught to and learned by almost all persons. Such skills, once learned, can be effectively used by individuals in enhancing their career development.
- _____ 14. Excessive deprivation in any given aspect of human growth and development can lead to retardation of career development. Such deprivation will require special variations in career development programs for persons suffering such deprivation.
- _____ 15. An effective means of helping individuals discover both who they are (in a self concept sense) and why they are (in a personal awareness sense) is through helping them discover their accomplishments that can come from the work that they do.
- _____ 16. Parental attitudes toward work and toward education act as powerful influences on the career development of their children. Such parental attitudes are modifiable through programmatic intervention strategies.
- _____ 17. The processes of occupational decision making and occupational preparation can be expected to be repeated more than once for most adults in today's society.
- _____ 18. In choosing an occupation, one is, in effect, choosing a lifestyle.'

- _____ 19. Relationships between education and work can be made more meaningful to students through infusion into subject matter than if taught as a separate body of knowledge.
- _____ 20. Education and work can increasingly be expected to be interwoven at various times in the lives of most individuals rather than occurring in a single sequential pattern.
- _____ 21. Decisions individuals make about the work that they do are considerably broader and more encompassing in nature than are decisions made regarding the occupations in which they are employed.
- _____ 22. Good work habits and positive attitudes toward work can be effectively taught to most individuals. Assimilation of such knowledge is most effective if begun in the early childhood years.
- _____ 23. The basis on which work can become a personally meaningful part of one's life will vary greatly from individual to individual. No single approach can be expected to meet with universal success.
- _____ 24. While economic return can be expected almost always to be a significant factor in decisions individuals make about occupations, it may not be a significant factor in many decisions individuals make about their total pattern of work.

(1 = SA, 2 = A, 3 = 11A, 4 = NAND, 5 = D)

Career Education Task
and Task Assignment

51

To what extent do you agree with the following career education task and the assignment of these task. Please respond to each item using the four categories given below by placing the appropriate rating in the blank beside the item.

Rating

1. Agree with task and assignment.
2. Agree with task, but not assignment.
3. Disagree with task.
4. No opinion.

A. All classroom teachers will:

- _____ 1. devise and/or locate methods and materials designed to help pupils understand and appreciate the career implications of the subject matter being taught.
- _____ 2. utilize career-oriented methods materials in the instructional program, where appropriate, as one means of educational motivation.
- _____ 3. help pupils acquire and utilize good work habits.
- _____ 4. help pupils develop, clarify, and assimilate personally meaningful sets of work values.
- _____ 5. integrate, to the fullest extent possible, the programmatic assumptions of career education into their instructional activities and teacher-pupil relationships.

B. In addition, some teachers will be charged with:

- _____ 1. providing students with specific vocational competencies at a level that will enable students to gain entry into the occupational society.
- _____ 2. helping students acquire job-seeking and job-getting skills.
- _____ 3. with participating in the job-placement process.
- _____ 4. helping students acquire decision-making skills.

C. The business-labor-industry community will:

- _____ 1. provide observational, work experience, and work-study opportunities for students and for those who educate students (teachers, counse-

- _____ 2. serve as career development resource persons for teachers, counselors, and students.

52

- _____ 3. participate in part-time and full-time job placement programs.

- _____ 4. participate actively and positively in programs designed to lead to reduction in worker alienation.

- _____ 5. participate in career education policy formulation.

D. Counseling and Guidance Personnel Will:

- _____ 1. help classroom teachers implement career education in the classroom.

- _____ 2. serve, usually with other educational personnel as liaison contacts between the school and the business-labor community.

- _____ 3. serve, usually with other educational personnel, in implementing career education concepts within the home and family structure.

- _____ 4. help students in the total career development process, including the making and implementation of career decisions.

- _____ 5. participate in part-time and full-time placement programs and in follow-up studies in former students.

E. The home and family members where pupils reside will:

- _____ 1. help pupils acquire and practice good work habits.

- _____ 2. emphasize development of positive work values and attitudes toward work.

- _____ 3. will maximize, to the fullest extent possible, career development options and opportunities for themselves and for their children.

F. Educational administrators and school boards will:

- _____ 1. will emphasize career education as a priority goal.

- _____ 2. provide leadership and direction to the career education program.

- _____ 3. involve the widest possible community participation in career education policy decision making.

- _____ 4. provide the time, materials, and finances required for implementing the career education program.

- _____ 5. initiate curriculum revision designed to integrate academic, general and vocational education into an expanded set of educational opportunities available to all students.

11d. Pre and Post Multidimensional Scaling of Career Education Staff
From Ratings of Outcomes of Career Education

The seven instructional members of the Career Education Project team gave subjective ratings of the overall dissimilarity among ten goals of career education as defined by HEW (Hoyt, K.B. An Introduction to Career Education, Washington D.C.: U.S. Office of Education 1975. Appendix A, Table II) as follows:

1. Self Awareness
2. Competency in Academic Skills
3. Competency in Vocational Skills
4. Set of Work Values
5. Awareness of Knowledge About Work
6. Career Decision Making Skills
7. Good Work Habits
8. Work-Seeking and Work-Getting Skills
9. Successful Placement Upon Leaving Educational System
10. Awareness of Means Available for Continued Education.

Pairwise dissimilarity judgements were made on a scale from 1 to 9:

IDENTICAL 1 2 3 4 5 6 7 8 9 VERY DIFFERENT

The pairs were arranged using the scheme developed by Robert Ross (Journal of Educational Psychology, 1934, 25, 375-382) to "avoid regular repetitions which might influence judgement and maintain the greatest possible spacing between pairs involving any given member of the stimulus group". (p.375) This instrument, Rating Outcomes for Career Education, which may be found on page 70, was administered in September at the beginning of the project and in May at the conclusion of project activities.

INDSCAL is a metric multidimensional scaling computer program which assumes that a person's judgements of proximity between pairs of stimuli (goals) are related to the distances between pairs of stimuli in the person's psychological space common to all people. INDSCAL also assumes that individuals differ from one another in the importance or saliences of the dimensions on the common "group space".

The INDSCAL program provides two configurations with a unique set of axes, which unlike other programs, do not have to be rotated, etc. The first configuration is the group stimulus space in which the coordinates of each stimulus on each dimension are determined from the input of the total group. The second configuration the "subject space" gives the weights that each person applies to each dimension of the group stimulus space. From these weights a "private space" for each individual may be determined from the group space by differentially stretching (or shrinking) the dimensions of the group space by the respective weights.

Being metric, the program assumes that the subjective dissimilarity ratings are linearly related to the distances in the private space, which is a function both of the group space and the weightings found in the subject space. These two spaces are determined so as to account for as much total variance in all seven individuals' subjective ratings.

INDSCAL Pre Analysis

The program provides correlations between each individual's proximity ratings and the distances in his private space. These correlations are found in the following table for three, two, and one dimensional solutions.

TABLE I

Individual	3-Dimensional	2-Dimensional	1-Dimensional
1	.72	.62	.53
2	.68	.68	.44
3	.71	.61	.61
4	.64	.44	.30
5	.80	.63	.35
6	.62	.46	.40
7	.86	.76	.51

The group stimulus space is represented by the projection of the stimulus points on two dimensions at a time, Dimension 1 x Dimension 2, Dimension 1 x Dimension 3, Dimension 2 x Dimension 3. These configurations are reproduced below. The most varied dimension is Dimension 1 which may be interpreted as a Product-Process Dimension. The second dimension may be interpreted as an Applied-Theoretical Dimension. The third dimension separates the goals into academic, work related, and personal skills, an Academic-Personal Dimension. (The numbers in Figures 1, 2, 3 and 7, 8 refers to goals listed on page 1.)

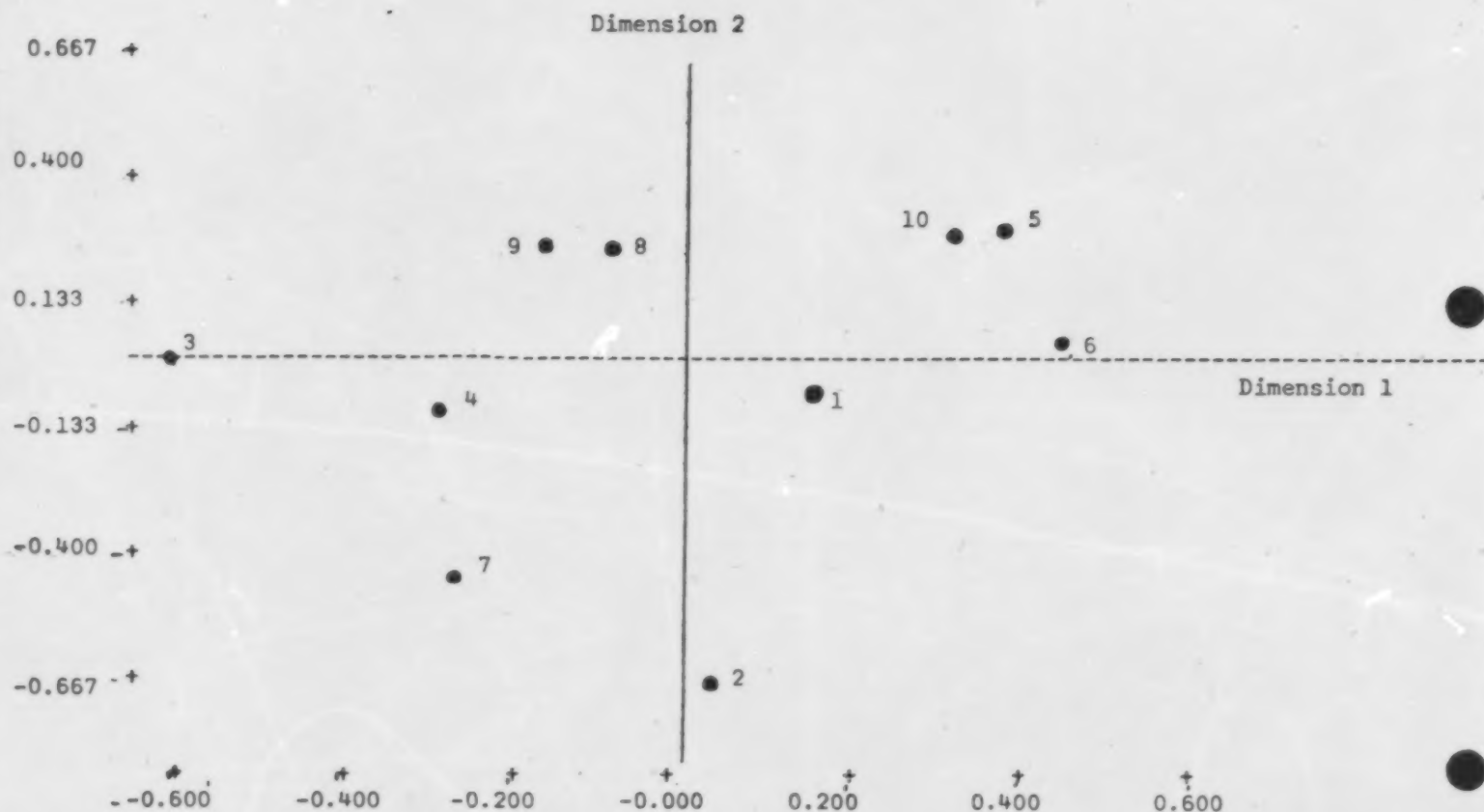
The subject space shows the following about the individuals in relationship to one another: Person J is high on Dimension 1, while moderate on the other two dimensions. Person N is high on Dimension 2, moderate on Dimension 1 and gives no weight to Dimension 3. Person M is highest on Dimension 1, lowest on Dimension 2, and about the same as the rest on Dimension 3. Person C is moderate on Dimensions one and three and low on Dimension 2. Person B is moderate on Dimension 3, highest on Dimension 2 and moderately high on Dimension 1.

It is interesting to note that the first dimension in the subject space orders the group according to their grade level interest. Those with highest weights on the first dimension are subjects with an orientation to the secondary classroom while those with lowest weights are

more actively involved in primary or intermediate education. The first dimension is one which those involved in secondary education stress more than those in elementary education.

The secondary dimension in the subject space orders the group according to the importance they see in applications. Those whose weights are the highest tend to give great emphasis to applications while those with the lower weights give more stress to theory.

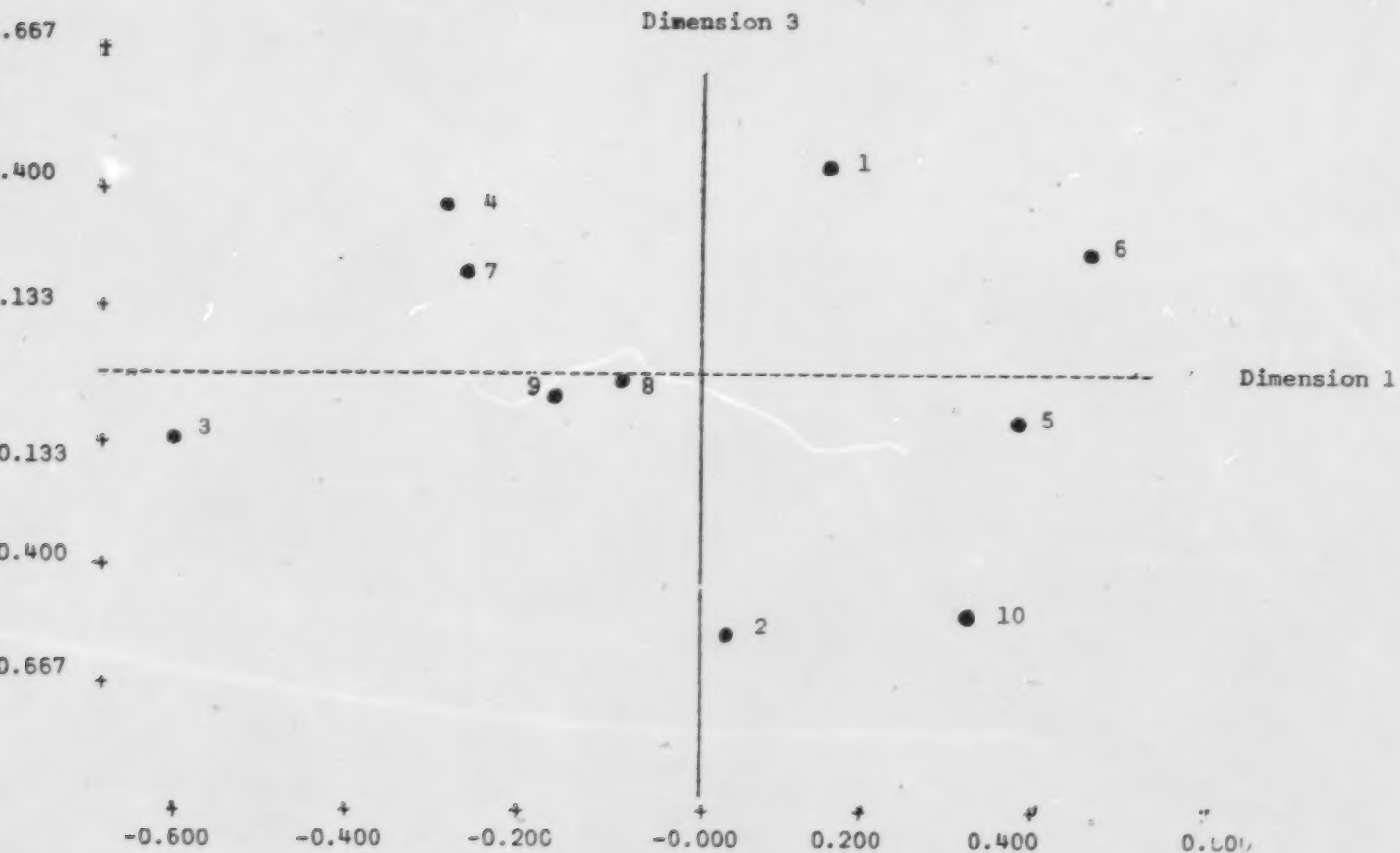
The third dimension groups all but one into one group. The exception is a person whose field of interest is special education in which formal education has no meaning except in relation to personal development.



INDSCAL Group Space Dimension 1 vs Dimension 2
Pre Data

FIGURE 1

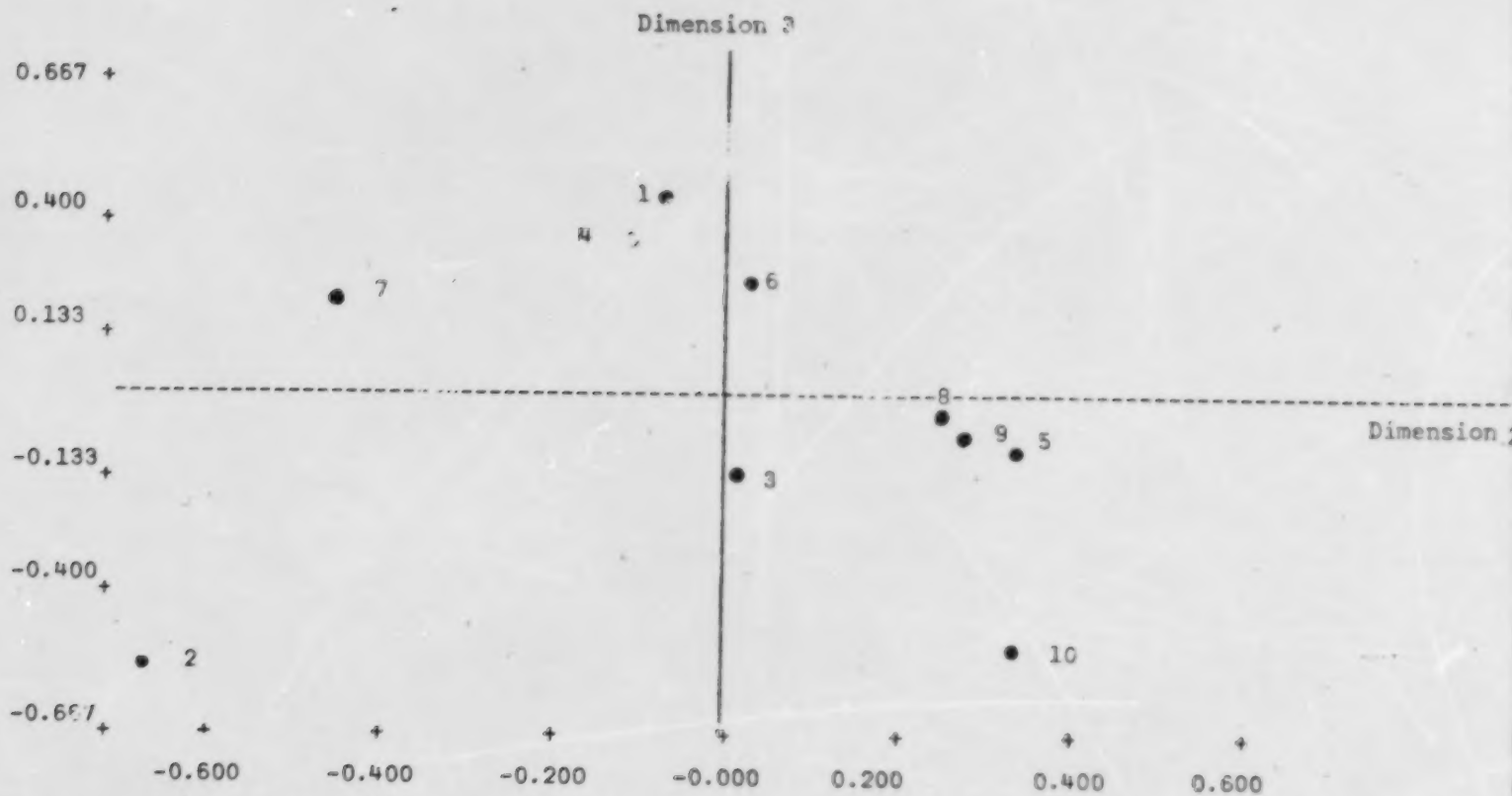
63 / 63A



INDSCAL Group Space Dimension 1 vs. Dimension 3
Pre Data

FIGURE 2

64 / 64A



INDSCAL Group Space Dimension 2 vs. Dimension 3
Pre Data

FIGURE 3

65/65A

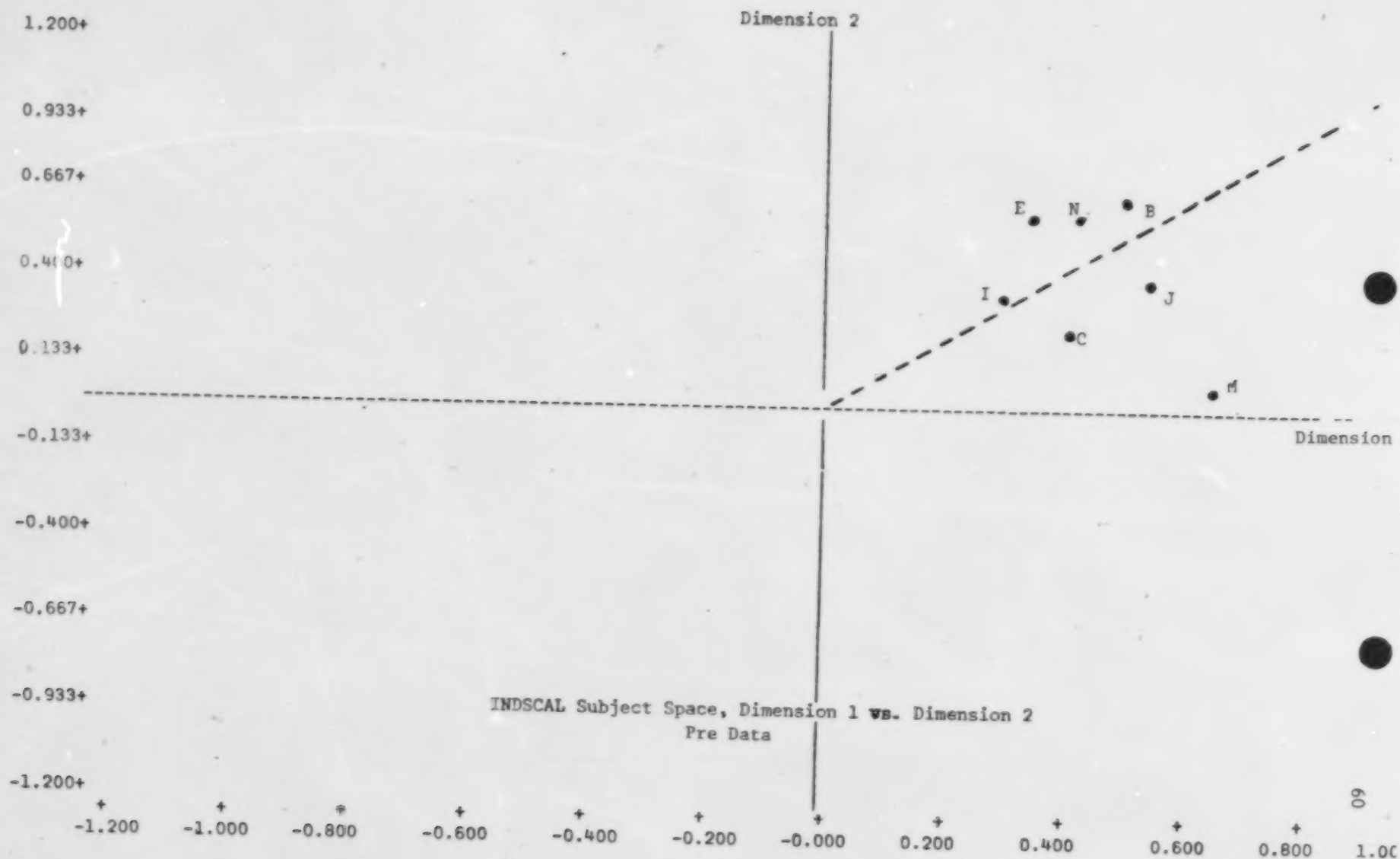


FIGURE 4

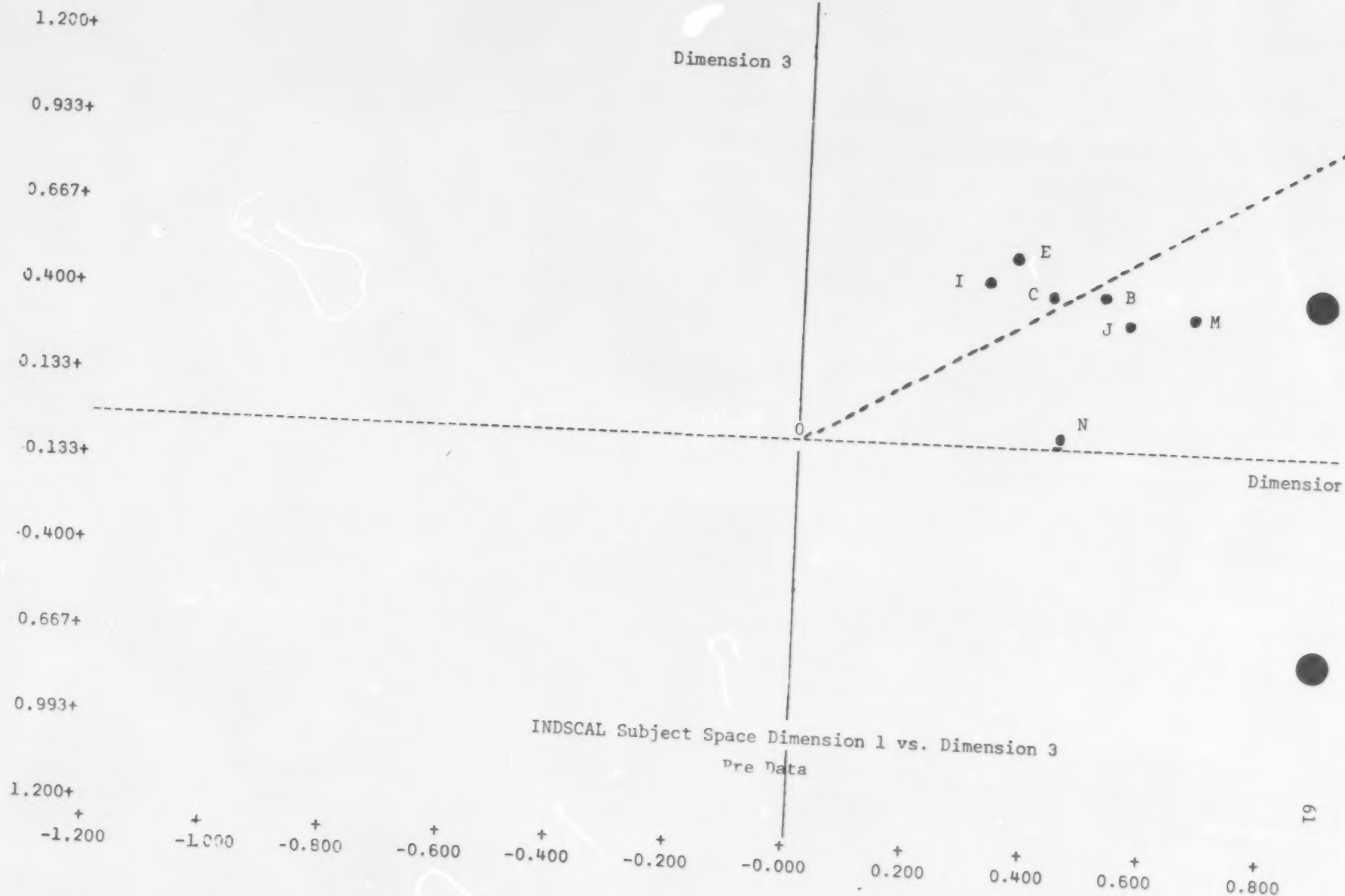


FIGURE 5

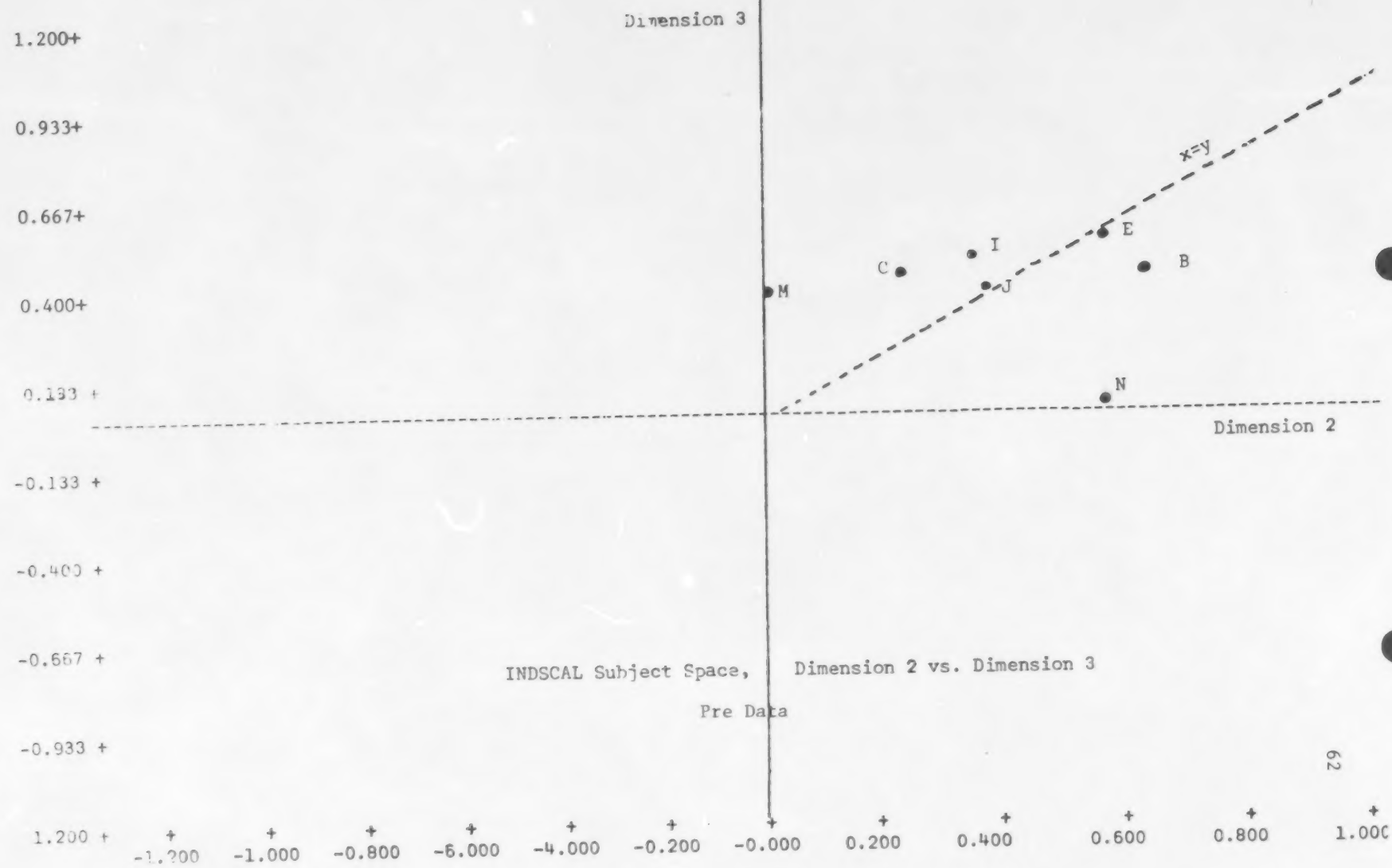


FIGURE 6

INDSCAL Post Analysis

Comparing the results of INDSCAL on the post test (Figures 7,8, 9 and 10) with those on the pretest, the major changes reflected is the shift in emphasis on the academic vs. personal dimension. This dimension was the third in importance on the pre-analysis and the first in importance on the post analysis. Below is a table of rank order correlations between the orderings of goals for a dimension in the reconstructed INDSCAL configurations.

TABLE II

		POST		
		DIM-1	DIM-2	DIM-3
	DIM-1	-.31	.92	.12
PRE	DIM-2	-.09	.49	.89
	DIM-3	-.82	-.03	-.17

From this table it can be seen that the first dimension of the configuration reconstructed from the pre-test (PRE) corresponds to the second dimension of the configuration reconstructed from the post-test (POST). The second dimension of PRE corresponds to the third dimension of POST and the third dimension of PRE corresponds (in the reverse order) to the first dimension of POST.

The nine correlations were transformed by the Fisher Z transformation which is normally distributed with a mean of z_r and a variance of $1/(n-3)$. Since $n = 10$ (there were ten goals in each ordering), the standard deviation was $1/\sqrt{7}$.

The values $z_{.82} = 1.157$ and $z_{.49} = .536$ were tested to see if they were significantly different from zero.

$$z_{.82} = \frac{-1.157 - 0}{\frac{1}{\sqrt{7}}} = -3.1 \text{ (p<002)}$$

$$z_{.49} = \frac{.536 - 0}{\frac{1}{\sqrt{7}}} = 1.4 \text{ (p<.16)}$$

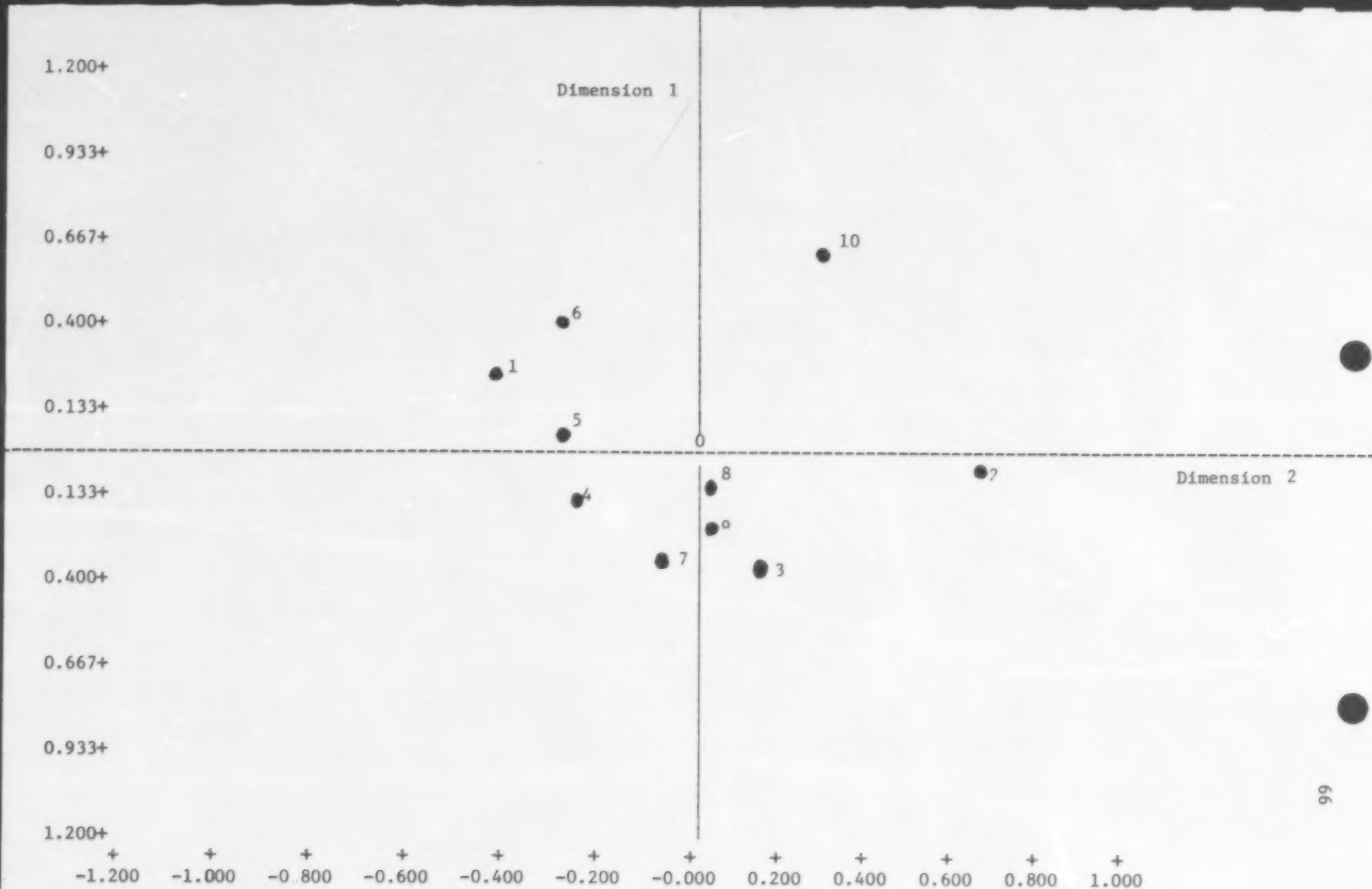
From this we may conclude that $r = -.82$ and hence $r = .89$ and $r = .92$ are all highly significantly different from zero while the remaining correlations falling below .49 in Table I are not significantly different from zero.

Dimensions 1, 2 and 3 of POST which were labeled without reference to PRE were named Self vs. Academic Growth, Personal vs. Work Development, and Standard Curriculum vs. Vocational Training, respectively. These could easily be renamed Academic-Personal, Process-Product, and Applied-Theoretical, respectively to show the relationship between the salient dimensions of POST and those of PRE.

From the subject space it can be seen that person B gave the three dimensions approximately the same weight. Person C discriminated the goals based on Dimensions 1 and 2 and almost ignored Dimension 3. Person E gave much salience to Dimension 3. Person I gave more weight to Dimension 1 than was given by anyone to any dimension. Persons J and M were similar in their saliences. They both gave the most weight to Dimension 2.

It is interesting to note that Dimension 2 of POST orders the staff according to their grade level interest as did Dimension 1 on PRE. Those with high weights on Dimension 2 of POST use the Personal vs. Work Development dimension in making distinctions more than do those with lower weights. Those with high weights on Dimension 1 of POST have more salience for the Self vs. Academic Growth dimension than do those with lower weights. Those with higher weights on Dimension 3 of POST separate the Standard Curriculum and Vocational

Training while those with lower weights do not tend to make such a distinction. This latter group would tend more toward infusion of career education.



Post Data
INDSCAL Group Space Dimension 1 vs. Dimension 2

FIGURE 7

1.200+

0.933+

0.667+

0.400+

0.133+

Dimension 1

0

Dimension 3

0.133+

0.400+

0.667+

0.933+

1.200+

-1.200 -1.000 -0.800 -0.600 -0.400 -0.200 -0.000 0.200 0.400 0.600 0.800 1.000

Post Data

INDSCAL Group Space Dimension 1 vs. Dimension 3

FIGURE 8

67

73

77

1.200+

Dimension 2

0.933+

0.667+

0.400+

0.133+

0.133+

0.400+

0.667+

0.933+

1.200+

-1.200

-1.000

-0.800

-0.600

-0.400

-0.200

-0.000

0.200

0.400

0.600

0.800

1.000

Dimension 1

89

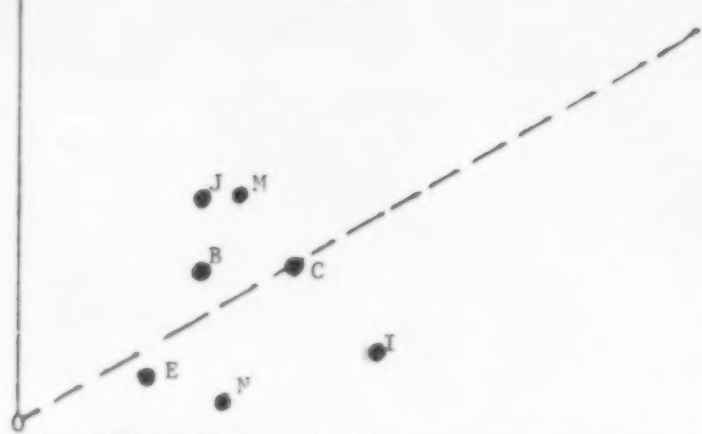
Post Data

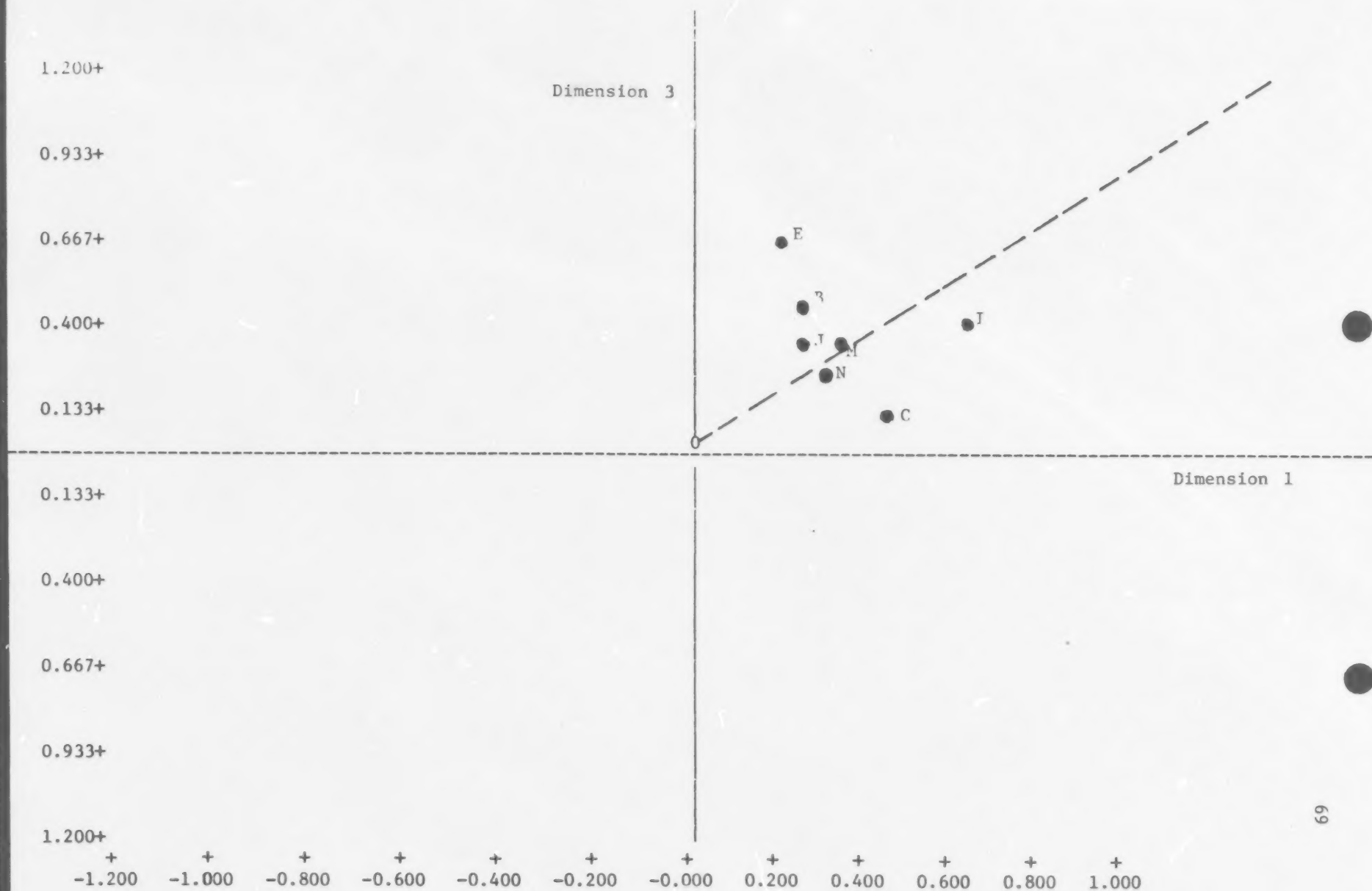
INDSCAL Subject Space Dimension 2 vs. Dimension 1

FIGURE 9

79

80





INDSCAL Subject Space Dimension 3 vs. Dimension 1
FIGURE 10

Rating Outcomes for Career Education

Below is a list of pairs of general outcomes for Career Education. Please rate each pair on a 1 to 9 scale according to their degree of similarity. A "1" indicates that they are identical and a "9" indicates that they are as different as possible. Circle the numeral that best indicates your rating.

Self Awareness - - - Competency in Academic Skills

Identical 1 2 3 4 5 6 7 8 9 Very Different

Competency in Vocational Skills - - - Awareness of and Knowledge
about Work

Identical 1 2 3 4 5 6 7 8 9 Very Different

Awareness of Means Available for - - - Career Decision Making Skills
Continued Education

Identical 1 2 3 4 5 6 7 8 9 Very Different

Successful Placement Upon Leaving Educational System - - - Good Work
Habits

Identical 1 2 3 4 5 6 7 8 9 Very Different

Work-seeking and Work-getting Skills - - - Self Awareness

Identical 1 2 3 4 5 6 7 8 9 Very Different

Set of Work Values - - - Competency in Academic Skills

Identical 1 2 3 4 5 6 7 8 9 Very Different

Career Decision Making Skills - - - Competency in Vocational Skills

Identical 1 2 3 4 5 6 7 8 9 Very Different

Good Work Habits - - - Awareness of Means Available for Continued
Education

Identical 1 2 3 4 5 6 7 8 9 Very Different

Work-seeking and Work-getting Skills - - - Successful Placement Upon
Leaving Educational System

Identical 1 2 3 4 5 6 7 8 9 Very Different

Self Awareness - - - Set of Work Values

Identical 1 2 3 4 5 6 7 8 9 Very Different

Competency in Academic Skills - - - Awareness of and Knowledge
About Work

Identical 1 2 3 4 5 6 7 8 9 Very Different

Competency in Vocational Skills - - - Good Work Habits

Identical 1 2 3 4 5 6 7 8 9 Very Different

Awareness of Means Available for - - - Work-seeking and Work-getting
Continued Education Skills

Identical 1 2 3 4 5 6 7 8 9 Very Different

Successful Placement Upon Leaving - - - Self Awareness
Educational System

Identical 1 2 3 4 5 6 7 8 9 Very Different

Awareness of and Knowledge about Work - - - Set of Work Values

Identical 1 2 3 4 5 6 7 8 9 Very Different

Career Decision Making Skills - - - Competency in Academic Skills

Identical 1 2 3 4 5 6 7 8 9 Very Different

Work-seeking and Work-getting Skills - - - Competency in Vocational Skills

Identical 1 2 3 4 5 6 7 8 9 Very Different

Successful Placement upon Leaving - - - Awareness of Means Available
Educational System for Continued Education

Identical 1 2 3 4 5 6 7 8 9 Very Different

Self Awareness - - - Awareness of and Knowledge about Work

Identical 1 2 3 4 5 6 7 8 9 Very Different

Set of Work Values - - - Career Decision Making Skills

Identical 1 2 3 4 5 6 7 8 9 Very Different

Competency in Academic Skills - - - Good Work Habits

Identical 1 2 3 4 5 6 7 8 9 Very Different

Competency in Vocational Skills - - - Successful Placement upon
Leaving Educational System

Identical 1 2 3 4 5 6 7 8 9 Very Different

Awareness of Means Available for - - - Self Awareness
Continued Education

Identical 1 2 3 4 5 6 7 8 9 Very Different

Career Decision Making Skills - - - Awareness of and Knowledge about
Work

Identical 1 2 3 4 5 6 7 8 9 Very Different

Good Work Habits - - - Set of Work Values

Identical 1 2 3 4 5 6 7 8 9 Very Different

Work-seeking and Work-getting Skills - - - Competency in Academic
Skills

Identical 1 2 3 4 5 6 7 8 9 Very Different

Awareness of means Available for - - - Competency in Vocational Skills
Continued Education

Identical 1 2 3 4 5 6 7 8 9 Very Different

Self Awareness - - - Career Decision Making Skills

Identical 1 2 3 4 5 6 7 8 9 Very Different

Awareness of and Knowledge about - - - Good Work Habits
Work

Identical 1 2 3 4 5 6 7 8 9 Very Different

Set of Work Values - - - Work-seeking and Work-getting Skills

Identical 1 2 3 4 5 6 7 8 9 Very Different

Competency in Academic Skills - - - Successful Placement Upon Leaving
Educational System

Identical 1 2 3 4 5 6 7 8 9 Very Different

Competency in Vocational Skills - - - Self Awareness

Identical 1 2 3 4 5 6 7 8 9 Very Different

Good Work Habits - - - Career Decision Making Skills

Identical 1 2 3 4 5 6 7 8 9 Very Different

Work-seeking and Work-getting Skills - - - Awareness of and Knowledge
about Work

Identical 1 2 3 4 5 6 7 8 9 Very Different

Successful Placement Upon Leaving - - - Set of Work Values
Educational System

Identical 1 2 3 4 5 6 7 8 9 Very Different

Awareness of Means Available - - Competency in Academic Skills
for Continued Education

Identical 1 2 3 4 5 6 7 8 9 Very Different

Self Awareness - - - Good Work Habits

Identical 1 2 3 4 5 6 7 8 9 Very Different

Career Decision Making Skills - - - Work-seeking and Work-getting Skills

Identical 1 2 3 4 5 6 7 8 9 Very Different

Awareness of and Knowledge About - - - Successful Placement Upon
Work Leaving Educational System

Identical 1 2 3 4 5 6 7 8 9 Very Different

Set of Work Values - - - Awareness of Means Available for Continued
Education

Identical 1 2 3 4 5 6 7 8 9 Very Different

Competency in Academic Skills - - - Competency in Vocational Skills

Identical 1 2 3 4 5 6 7 8 9 Very Different

Good Work Habits - - - Work-seeking and Work-getting Skills

Identical 1 2 3 4 5 6 7 8 9 Very Different

Career Decision Making Skills - - - Successful Placement upon Leaving
Educational System

Identical 1 2 3 4 5 6 7 8 9 Very Different

Awareness of and Knowledge About - - - Awareness of Means Available
Work for Continued Education

Identical 1 2 3 4 5 6 7 8 9 Very Different

Set of Work Values - - - Competency in Vocational Skills

Identical 1 2 3 4 5 6 7 8 9 Very Different

11e. Student Attitude Change
Effects of Participation in Career Education Orientated Classes

During the Spring Quarter, 10 classes were conducted related to the project. Three of these were taught the usual methods course and considered the control group. In the other seven classes career education was fused into the curriculum. These seven classes were considered the experimental group.

The first or second day of the Spring quarter each student in the ten classes was administered an instrument to assess his attitudes about career education. This instrument, Career Education Survey, UGA Student Edition (page 79) was derived from items found in the study guide accompanying the draft of "An Introduction to Career Education".*

This instrument consisted of 49 items that were rated on a 1 to 5 scale. At the end of the quarter the instrument was readministered. The summary statistics for total score of each test appear in Table 1.

Table 1
Experimental and Control Groups Means
Standard Deviations, and Reliabilities - For Pre-Post Data

		n	$\bar{x}$	s^2	$r_{xx}(a)$
Experimental	Pre	105	109.58	8.0789	.9010
	Post	105	98.46	12.8845	.9514
Control	Pre	53	112.3	5.0679	.8388
	Post	53	106.94	6.9281	.8949

(a) r_{xx} is the reliability of the test determined by Cronbach's alpha.

* Hearing Before the Subcommittee on Elementary, Secondary, and Vocational Education of the Committee on Education and Labor, House of Representatives.
Washington, D.C., U.S. Government Printing Office #54-7830, May 20, 1975.
pp. 27-45.

To determine whether the change in scores from pre to post tests was significantly different for the control and experimental groups, the following t statistic was used, which is an appropriate measure for use with change score data in that the reliabilities of the instrument administered twice is included in the analysis. (Thorndike, 1971, p. 392)*

$$t_{(n_e + n_c - 2)} = \frac{(\bar{X}_{e1} - \bar{X}_{e2}) - (\bar{X}_{c1} - \bar{X}_{c2})}{S_d \sqrt{\frac{1}{n_e} + \frac{1}{n_c}}}$$

$$\text{where } S_d = \frac{(n_e - 1) [S_{e1}^2 (1 - r_{e1}) + S_{e2}^2 (1 - r_{e2})] + (n_c - 1) [S_{c1}^2 (1 - r_{c1}) + S_{c2}^2 (1 - r_{c2})]}{n_e + n_c - 2}$$

The t statistic for the above data was

$$t_{156} = 28.236 \text{ which is highly significant.}$$

The drop in scores for the experimental group was significantly different from the drop in scores for the control group. Since the lower scores indicated higher agreement with objectives of career education (or more positive attitudes toward Career Education) one may conclude that participation in classes infused with career education lead to improved attitudes toward Career Education.

From the data on individual classes found in Table II it is apparent that the students who participated in the professional courses in education

*Thorndike, R. C., Editor, Educational Measurement, second edition, 1971 American Council on Education, Washington, D. C.

reported a more favorable attitude about career education after completing these courses. Students in the experimental classes which attempted to infuse career education into the curriculum had a more favorable attitude than the control classes. The classes which were taught in special education elementary education, and science education (for elementary teachers) appeared the most improved after completing the experimental courses, which implies that the most improvement was noted at the lower or elementary level teacher training courses.

Table II
Individual Classes
Means and Standard Deviations for Pre - Post Data

	Subject	Pre			Post			$\bar{x}_1 - \bar{x}_2$
		N	$\bar{x}_1$	SD	N	$\bar{x}_2$	SD	
Experimental Classes	Special Ed.	14	93.64	22.32	14	72.64	12.14	21.00
	Elementary	13	108.84	16.28	15	90.93	14.09	17.91
	Science	12	104.68	19.64	13	87.46	17.97	17.22
	Voc. Ag.	25	115.76	16.70	24	105.54	21.27	10.22
	Ed. Psy	15	113.60	12.29	16	105.19	16.19	8.41
	Ed. Psy	14	107.28	20.27	10	101.80	22.88	5.48
	Soc. Sci.	13	117.45	20.45	12	124.08*	34.32	-6.31
Control Classes	Special Ed.	17	113.29	11.48	18	104.54	14.66	8.75
	Ed. Psy	17	115.76	14.97	17	111.29	22.71	4.47
	Ed. Psy	19	108.32	18.26	18	105.28	15.83	3.04

* One student with a high negative score of 210 (a z score of 8.66 for experimental group post test norms) accounted for the larger post test means. Omitting this obviously bias score yields a mean of 116.27 for the remaining group, a 1.50 drop from pre-test mean.

Career Education Survey

Please respond to the following items using the five categories below by marking the appropriate rating on the answer sheet.

- 1 Strongly agree (SA)
- 2 Agree (A)
- 3 Mildly agree (MA)
- 4 Neither agree nor disagree (NAND)
- 5 Disagree (D)

To what extent do you agree that each of the programmatic assumptions, concerning career education, listed in items 1-24 below is valid?

1. If students can see clear relationships between what they are being asked to learn in school and the world of work, they will be motivated to learn more in school.
2. There exists no single learning strategy that can be said to be best for all students. Some students will learn best by reading out of books for example, and others will learn best by combining reading with other kinds of learning activities.
3. Basic academic skills, a personally meaningful set of work values, and good work habits represent adaptability tools needed by all persons who choose to work in today's rapidly changing occupational society.
4. Increasingly, entry into today's occupational society demands the possession of a specific set of vocational skills on the part of those who seek employment. Unskilled labor is less and less in demand.
5. Career development, as part of human development, begins in the pre-school years and continues into the retirement years. Its maturational patterns differ from individual to individual.
6. Work values, a part of one's personal value system are developed, to a significant degree, during the elementary school years and are modifiable during those years.
7. Specific occupational choices represent only one of a number of kinds of choices involved in career development. They can be expected to increase in realism as one moves from childhood into adulthood and, to some degree, to be modifiable during most of one's adult years.

8. Occupational stereotyping currently acts to hinder full freedom of occupational choice for both females and for minority persons. These restrictions can be reduced, to some extent, through programmatic intervention strategies begun in the early childhood years.
9. Parent socio-economic status acts as a limitation on occupational choices considered by children. This limitation can be reduced, to a degree, by program intervention strategies begun in the early years.
10. A positive relationship exists between education and occupational competence, but the optimum amount and kind of education required as preparation for work varies greatly from occupation to occupation.
11. The same general strategies utilized in reducing worker alienation in industry can be used to reduce worker alienation among pupils and teachers in the classroom.
12. While some persons will find themselves able to meet their human needs for accomplishment through work in their place of paid employment, others will find it necessary to meet this need through work in which they engage during their leisure time.
13. Career decision making skills, job hunting skills, and job getting skills can be taught to and learned by almost all persons. Such skills, once learned, can be effectively used by individuals in enhancing their career development.
14. Excessive deprivation in any given aspect of human growth and development can lead to retardation of career development. Such deprivation will require special variations in career development programs for persons suffering such deprivation.
15. An effective means of helping individuals discover both who they are (in a self concept sense) and why they are (in a personal awareness sense) is through helping them discover their accomplishments that can come from the work that they do.
16. Parental attitudes toward work and toward education act as powerful influences on the career development of their children. Such parental attitudes are modifiable through programmatic intervention strategies.

(1 = SA, 2 = A, 3 = MA, 4 = NAND, 5 = D_

17. The processes of occupational decision making and occupational preparation can be expected to be repeated more than once for most adults in today's society.
18. In choosing an occupation, one is, in effect, choosing a lifestyle.'
19. Relationships between education and work can be made more meaningful to students through infusion into subject matter than if taught as a separate body of knowledge.
20. Education and work can increasingly be expected to be interwoven at various times in the lives of most individuals rather than occurring in a single sequential pattern.
21. Decisions individuals make about the work that they do are considerably broader and more encompassing in nature than are decisions made regarding the occupations in which they are employed.
22. Good work habits and positive attitudes toward work can be effectively taught to most individuals. Assimilation of such knowledge is most effective if begun in the early childhood years.
23. The basis on which work can become a personally meaningful part of one's life will vary greatly from individual to individual. No single approach can be expected to meet with universal success.
24. While economic return can be expected almost always to be a significant factor in decisions individuals make about occupations, it may not be a significant factor in many decisions individuals make about their total pattern of work.

To what extent do you agree with the following justifications for the career education movement in items 25-35?

25. Too many persons leaving our educational system are deficient in the basic academic skills required for adaptability in today's rapidly changing society.
26. Too many students fail to see meaningful relationships between what they are being asked to learn in school and what they will do when they leave the educational system. This is true of both of those who remain to graduate and those who drop out of the educational systems.

(1 = SA, 2 = A, 3 = MA, 4 = HARD, 5 = D)

27. American education, as currently structured, best meets the educational needs of that minority of persons who will someday become college graduates. It has not given equal emphasis to meeting the educational needs of that vast majority of students who will never be college graduates.
28. American education has not kept pace with the rapidity of change in the post-industrial occupational society. As a result, both over-educated and under-educated workers are present in large numbers. Both the boredom of the over-educated worker and the frustration of the under-educated have contributed to the growing presence of worker alienation in the total occupational society.
29. Too many persons leave our educational system at both the secondary and collegiate levels unequipped with the vocational skill, the self-understanding and career decision-making skills, or the desire to work that are essential for making a successful transition from school to work.
30. The growing need for presence of women in the work force has been adequately reflected in neither the educational nor the career options typically pictured for girls enrolled in our educational system.
31. The growing needs for continuing and recurrent education on the part of adults are not being adequately met by our current systems of public education.
32. Insufficient attention has been given to learning opportunities outside of the structure of formal education which exist and are increasingly needed by both youth and adults in our society.
33. The general public, including parents and the business-industry-labor community, has not been given an adequate role in formulation of educational policy.
34. American education, as currently structured, does not adequately meet the needs of minority, nor of economically disadvantaged persons in our society.
35. Post high school education has given insufficient emphasis to educational programs at the sub-baccalaureate degree level.

To what extent do you agree with the definitions in items 36-39?

- 36. Work: defined as conscious effort aimed at producing benefits for oneself and/or for others.
- 37. Career: defined as the totality of work one does in his or her lifetime.
- 38. Career education: defined as the totality of educational experiences through which one learns about work.
- 39. Education: defined as the totality of experiences through which one learns.

To what extent do you agree with each of the 10 basic concepts listed in items 40 -49:

- 40. Since both one's career and one's education extend from the preschool through the retirement years, career education must also span almost the entire life cycle.
- 41. The concept of productivity is central to the definition of work and so to the entire concept of career education.
- 42. Since "work" includes unpaid activities as well as paid employment, career education's concerns in addition to its prime emphasis on paid employment, extend to the work of the student as a learner, volunteer workers, and full-time homemakers, and to work activities in which one engages as part of leisure and/or recreational time.
- 43. The cosmopolitan nature of today's society demands that career education embrace a multiplicity of work values, rather than a single work ethic, as a means of helping each individual answer the question "Why should I work?"
- 44. Both one's career and one's education are best viewed in a developmental, rather than a fragmented, sense.
- 45. Career education is for all persons---the young and the old; the mentally handicapped and the intellectually gifted; the poor and the wealthy; males and females; students in elementary schools and in the graduate colleges.

(1 = SA, 2 = A, 3 = MA, 4 = NAND, 5 = D)

46. The societal objectives of career education are to help all individuals (a) want to work, (b) acquire the skills necessary for work in these times, and (c) engage in work that is satisfying to the individual and beneficial to society.
47. The individualistic goals of career education are to make work (a) possible, (b) meaningful, and (c) satisfying for each individual throughout his or her lifetime.
48. Protection of the individual's freedom to choose and assistance in making and implementing career decisions are of central concern to career education.
49. The expertise required for implementing career education is to be found in many parts of society and is not limited to those employed in formal education.

(1 = SA, 2 = A, 3 = MA, 4 = NAND, 5 = D).

12. Anticipated Changes and/or Problems

If funding were available it would be highly desirable to:

- A. Provide follow-up assistance during 1976-77 to the 168 prospective teachers who were involved in the career education courses in this project. In the opinion of the project staff such additional support would increase greatly the possibility that these beginning teachers would initiate and carry out career education activities in their classrooms.
- B. Replicate and improve the Spring Quarter teaching experiences in the seven teaching fields. Having had one try at teaching a course with a career education emphasis, these seven instructors could now benefit greatly from a second and third teaching of the same course.
- C. Test the transportability of the University of Georgia Career Education Teacher Educator Staff Development Plan as described in our publications. With a minimum of funds the model could be exported and tested with the guidance of the project staff. Over \$200,000 of federal funds have been used to develop a model which is not likely to be tested, or if tested, the test will be conducted with little, if any, provisions for monitoring by the model developers.

13. Dissemination:

The following products were developed:

CAREER EDUCATION STAFF DEVELOPMENT PROGRAM FOR TEACHER EDUCATORS

- A. INSTRUCTOR'S STUDY GUIDE (provides a plan for self-study and/or for a three-day conference. Seven envelopes of supporting materials are included. Films, slide-tapes, audio cassettes, video tapes recommended for the program are available on a loan basis)
- B. CAREER EDUCATION: SELECTED READINGS FOR THE TEACHER EDUCATOR. 153p. (Selections by Cramer, Hansen, Herr, Hoyt, and Tennyson)
- C. HELPING PROSPECTIVE TEACHERS ATTAIN CAREER EDUCATION TEACHER COMPETENCIES. 343p. (A collection of reports of seven professors including rationale, course outlines, teaching strategies, evaluation in seven teacher preparation areas: educational psychology, elementary education, teaching of the mentally retarded, agricultural education, English, science, and social science education.)
- D. DISCOVERING AND USING THE STRENGTHS OF THE DISADVANTAGED AND CULTURALLY DIFFERENT IN CAREER EDUCATION by E. Paul Torrance. 117 p.
- E. FUTURE PROBLEM SOLVING AND CAREER EDUCATION by E. Paul Torrance, 74 p. (A 55 minute videotape on this topic is also available. Videotape shows a demonstration of creative problem solving on a career education problem dealing with workers in the future. Participants are a high school team of four gifted students with Dr. Torrance as commentator.)
- F. SOCIODRAMA IN CAREER EDUCATION by E. Paul Torrance, 45 p.

A project information bulletin was sent to each of: the 80 directors of U.S.O.E. funded career education projects; the heads of teacher education programs in 45 colleges and universities in Georgia, Tennessee, Alabama, Florida, South Carolina, and North Carolina. The

project director presented a report on the project at the American Association of Colleges for Teacher Education national conference, and at the Career Education Project Director's spring meeting. Project staff attended meetings of six national professional organizations and shared informally information on the project.

In addition, the project staff responded to numerous requests for information by mail and devoted many hours to explaining the project to campus visitors.

14. Special Activities

(not applicable)

15. Report Abstract

The Pre-Service Teacher Training in Career Education Project at the College of Education, University of Georgia attempted during 1975-76 to infuse a career education emphasis into existing teacher preparation programs. The project was based upon the premise that rather than add another subject to the curriculum, or another specialized teacher to the school, career education can best be achieved by assisting classroom teachers (K-12) to infuse career education concepts in the instructional program when and where such instruction is appropriate.

For this project CAREER EDUCATION was defined as *"a concept that supports relevant and accountable education. It attempts to provide all learners with the knowledge, skills, and strategies to perform their various life roles - as students, paid or non-paid workers, family members, and citizens. As such, it promotes personalizing of immediate experience and planning for the future through community involvement, greater flexibility and variety of learning approaches, including both individual and group activities."*

The project was organized with a director, a steering committee, an advisory board, and an interdisciplinary faculty team.

There were four major objectives of the University of Georgia Career Education Project.

1. *An interdisciplinary team of teacher educators will develop a career education staff development model for teacher educators.*
2. *The interdisciplinary team of teacher educators will identify, list, and describe teacher competencies necessary to implement career education in the elementary and secondary schools.*
3. *Members of the interdisciplinary team will restructure undergraduate professional education courses to include career education concepts and will develop alternate strategies for teaching those concepts.*
4. *Prospective teachers enrolled in the courses taught by the interdisciplinary team members will acquire career education competencies appropriate to their grade level and/or area of teaching specialization.*

Products and Results

Objective No. 1 - *An interdisciplinary team of teacher educators will develop a career education staff development model for teacher educators.*

The team members engaged in career education staff development activities throughout the year and produced in a multi-media format a transportable career education staff development model for teacher educators. Included in the multi-media package are: A. An INSTRUCTOR'S STUDY GUIDE to the use of the package, B. Needs assessment instruments, C. Readings, audio-tapes, video-tapes, slide-tapes, films, and charts to develop a rationale; an overview of the world of work; an understanding of the current status of career education in the United States; a description of the University of Georgia Model; teaching strategies; reviews of curriculum materials; reports on experiences of college faculty in revising course structure and the teaching of courses with a career education emphasis; and a guide to evaluation in Career Education.

Objective No. 2 - *The interdisciplinary team of teacher educators will identify, list, and describe teacher competencies necessary to implement career education in the elementary and secondary schools.*

The team members with the assistance of numerous consultants reviewed career development theory and research and the reports of various states and national groups. They then prepared a listing of 76 career education learner outcomes for students in grades K-12.

From this student learner career development outcome matrix four generic teacher competencies and 14 related teacher learning objectives were proposed as necessary for the infusion of career education concepts.

A listing and description of these is included in the staff development model described under Objective No. 1.

Objective No. 3 - *Members of the interdisciplinary team will restructure undergraduate professional courses to include career education concepts and will develop alternate strategies for teaching those concepts.*

The following courses were restructured to include career education concepts: Learning and Motivation, Principles and Practices of Elementary Education, Elementary Science Methods, Curriculum Planning in Agricultural Education, Teaching Procedures in Secondary Social Sciences, Student Teaching in English, and Curriculum Development for the Teaching of the Mentally Retarded.

Revised course outlines for these courses and descriptions of alternate teaching strategies are described in the project publications: "Helping Prospective Teachers Attain Career Education Teacher Competencies". "Sociodrama in Career Education", "Discovering and Using the Strengths of the Disadvantaged and Culturally Different in Career Education", and "Future Problem Solving and Career Education".

Objective No. 4 - *Prospective teachers enrolled in the courses taught by the interdisciplinary team members will acquire career education competencies appropriate to their grade level and/or area of teaching specialization.*

The evaluation report (Section 11e.) indicates students who participated in the professional courses in education with a career education emphasis reported a more favorable attitude toward career education than did control classes. The development of teacher competencies can not be truly evaluated until the 1976 group of students begin teaching. The project proposal indicated this would require funding beyond June 30, 1976.

APPENDICES

- A. Project Advisory Board, Steering Committee, Interdisciplinary Team
- B. A Model for Developing Teacher Objectives

APPENDIX A

Project Director - Alex Perrodin, Assoc. Dean - Instruction

Steering Committee - Marion Asche, Asst. Prof. - Vocational Ed.
Ray Bruce, Assoc. Prof. - Curriculum and Supervision
Alex Perrodin, Assoc. Dean - Instruction

Evaluation Specialists - Paul Wood, Assoc. Prof. - Educational Psychology
Marcia Perry, Project Assistant

Advisory Board - Mr. Peter Argo, President, Local 3203, Communication
Workers of American and President, Athens Central
Labor Board

Mr. Walter Denero, Institute of Government, University
of Georgia (former Model Cities Director)

Dr. Richard A. Granum, Coordinator - Adult Counseling,
Georgia Center for Continuing Education, University
of Georgia

E. Dunbar Harrison, Jr., Executive Vice President,
Citizens and Southern Bank, Athens

Dr. J. William Leach, Associate Director, Division of
Program and Staff Development, Georgia State
Department of Education

Ms. Ellen Lyles, Program Officer - Career Education
United States Office of Education, Atlanta Office

Mr. Ben Nash, Coordinator of Career and Vocational
Education, Northeast Georgia Cooperative Educational
Service Agency

Ms. Evelyn C. Neely, Director, Athens Child Development, Inc.

Dr. Jerry D. Purser, Director, Vocational-Technical
Education, Clarke County School District, Athens

Mr. Jack Semler, Personnel Manager, Reliance Electric Co.,
Athens Plant

Ms. Debera L. Sharpe, Consultant, Career Education, State
Department of Education, Division of Program and Staff
Development

Mr. Allen D. Stephenson, Executive Director, Athens Area
Chamber of Commerce

Interdisciplinary Faculty Team -

Dr. Richard Bartlett - Assist. Prof., Special Education
Dr. Charles Berryman - Assoc. Prof., Social Science Education
Mr. Jeremiah Crowley - Doctoral candidate, Counselor Education
Dr. Ira Dickerson, Assist. Prof., Agricultural Education
Dr. Horace Hawn, Assist. Prof., Elementary Education
Dr. Joseph Hooten, Professor, Mathematics Education
Dr. Ken Ricker, Assoc. Prof., Science Education
Dr. Paul Torrance, Professor, Educational Psychology
Dr. Ramon Veal, Assoc. Prof., Language Education

Project Assistants (Graduate Students)

Mary Allison, Curriculum and Supervision
Roberta Butler - English Education
Ann Crask, Educational Media
Gilda Ellis, Elementary Education
Ron Johnson - Mathematics Education (Winter, Spring)
Linda Norton, Social Science Education
Marcia Perry - Educational Research
Charles Porter - Science Education
Patrick Thompson - Mathematics Education (Fall)

EFFORTS AT THE UNIVERSITY OF GEORGIA
FOR PRE-SERVICE TEACHER PREPARATION
IN CAREER EDUCATION:

A Model for Developing Teacher Objectives

Developed by the Project Staff
Described by
Marion Asche
Ray Bruce
Alex Perrodin

University of Georgia
July 1976

UGA CAREER EDUCATION
PROJECT
Envelope 6
Item 1

EFFORTS AT THE UNIVERSITY OF GEORGIA
FOR PRE-SERVICE TEACHER PREPARATION
IN CAREER EDUCATION:

A Model for Developing Teacher Objectives

The emphasis in this project was on modifying the preparation programs of classroom teachers (K-12) to include an emphasis on career development concepts. The preparation of career education specialists who could teach career orientation courses or of specialists who could administer, supervise, or serve as consultants in a public school career education program was not the goal of this project. Other programs for counselors or vocational educators were already established for that purpose.

First of all, how is career education defined? For this project CAREER EDUCATION is defined as *"a concept that supports relevant and accountable education. It attempts to provide all learners with the knowledge, skills, and strategies to perform their various life roles - as students, paid or non-paid workers, family members, and citizens. As such, it promotes personalizing of immediate experience and planning for the future through community involvement, greater flexibility and variety of learning approaches, including both individual and group activities."*

This definition stresses that career education is much broader than preparation for one's vocation. It implies that schooling can provide some specific knowledge and can contribute to the development of certain skills which are related to the learner's needs in performing various life roles. Education, therefore, it is assumed, will be more closely related to life, the world outside the classroom.

This definition and certain programmatic considerations at the college level lead to the following assumptions and limitations affecting career education planning at the University of Georgia.

1. No new courses were to be created or added to the present pre-service requirements. Present courses or experiences would have to be modified to encourage instruction in career education.
2. Career education in the public schools should be accomplished by infusion in regular classrooms and not taught as a separate subject.
3. It is possible to identify and describe the competencies needed by teachers to infuse career education into their current offerings.
4. The list of career education teacher competencies should be kept brief and manageable if widespread support of present staff members is to be won.

How does an institution determine the competencies needed by prospective teachers? A first task is to agree on a definition of a teacher competency. For this project a teaching competency in career education is defined as *"a conceptualization by some authority about what effective teachers do as a professional effort to facilitate the attainment of the objectives of career development for their pupils."* The word *"do"* in the definition implies actions based on knowledge and attitudes.

Learner Outcomes

The definition of "teacher competency" requires a knowledge of "objectives of career development." These are stated in various ways by the U.S.O.E., by state coordinators of career education, and by those who are considered authorities/researchers in career development theory.

For this project consideration was given to the research of the University of Minnesota group headed by W. Wesley Tennyson; the University of Missouri group headed by Norman Gysbers; the research of the University of Georgia Center for Career Education; the nine learner outcomes of the U.S.O.E. as stated in Hoyt - AN INTRODUCTION TO CAREER EDUCATION; the 177 learner outcomes from Texas' BASIC LEARNER OUTCOMES FOR CAREER EDUCATION; and statements from several state career education coordinators (Georgia, Arizona, Nevada, Oregon, Hawaii).

From these a career development matrix was prepared (see page 4). This matrix divides student learner outcomes in career education into four major groupings.

- I. UNDERSTANDING SELF IN RELATION TO CAREERS
- II. MAKING CAREER RELATED DECISIONS
- III. RELATING SCHOOLING TO CAREERS
- IV. LEARNING ABOUT WORK AND OCCUPATIONS

For each of these groupings student learner outcomes are listed by school levels: A. Primary; B. Intermediate; C. Middle School; and D. High School. In reading the matrix note that an attempt has been made to show that career development is a continuing developmental process. For example, look at Area I - UNDERSTANDING SELF IN RELATION TO CAREERS. Item 3 at the Primary level states "Identifies situations in which personal control is exercised". Then, reading to the right Item 3 at the Intermediate level reads "Describes responsibilities associated with the consequences of behavior. "At the Middle School level item 3 states, Assumes greater responsibility for personal control over environment." Finally, moving further to the right of the matrix,

I. UNDERSTANDING SELF IN RELATION TO CAREERS

A. PRIMARY	B. INTERMEDIATE	C. MIDDLE SCHOOL	D. HIGH SCHOOL
1. Recognizes physical and non-physical characteristics.	1. Describes positive characteristics of self and significant others.	1. Identifies realistic self-improvement goals.	1. Relates personal strengths and limitations to identified employability characteristics.
2. Describes physical and non-physical characteristics of self and others with increasing objectivity.	2. Relates personal strengths and limitations to requirements of specific situations.	2. Clarifies self-characteristics in work relevant settings.	2. Develops tentative plans for achievement of realistic levels of personal competence in employability characteristics.
3. Identifies situations in which personal control is exercised.	3. Describes responsibilities associated with the consequences of behavior.	3. Assumes greater responsibility for personal control over environment.	3. Assumes responsibility for personal control of educational and career planning.
4. Shows awareness of the importance of personal control over one's environment.	4. Demonstrates self-reliance when working alone.	4. Evaluates the appropriateness of dependent, independent, and interdependent behavior.	4. Reality tests self-characteristics through work experience.
5. Demonstrates increasing ability to work independently and participate with others in small group activities.	5. Functions effectively as a contributing group member.	5. Describes responsibilities associated with self-rights, rights of groups to which he belongs and rights of others.	5. Relates own values to dependency-autonomy requirements of potential careers.
6. Shows awareness of the rights of self, and others.	6. Demonstrates increasing respect for the rights of self and others.	6. Responsibly defends the rights of self and others.	

II. MAKING CAREER RELATED DECISIONS

A. PRIMARY	B. INTERMEDIATE	C. MIDDLE SCHOOL	D. HIGH SCHOOL
1. Recognizes situations which allow alternate courses of action.	1. Identifies factors which may influence school and work related decisions.	1. Identifies decisions and their sequence which are prerequisite to entering an occupation.	1. Develops several tentative alternative educational/career plans for self.
2. Identifies situations in which one can make choices and those in which one is affected by choices made by others.	2. Describes relationship of factors such as age and experience to increased decision making rights and responsibilities.	2. Identifies sources of information necessary for making realistic education/career decisions.	2. Evaluate alternatives at identified decision points in personal educational/career plans to arrive at tentative choices.
3. Recognizes how choices one makes may affect self and others.	3. Describes values that may affect personal decisions.	3. Seeks relevant information regarding education/career alternatives.	3. Accepts responsibility for making education/occupation choices.
4. Makes basic classroom choices when provided with concrete options.	4. Projects possible consequences of various options.	4. Makes education/career decisions in simulation situations.	4. Seeks opinions and feelings of significant others toward tentative education/career alternatives.
5. Identifies factors which may affect choices.	5. Applies one or more problem solving models in making decisions.	5. Describes personal responsibilities for educational and career decision making.	5. Initiates action toward accomplishment of tentative but refined career plans.
6. Examines consequences of choices made by self and others.	6. Participates effectively in group decision making processes.		

III. RELATING SCHOOLING TO CAREERS

99

A. PRIMARY	B. INTERMEDIATE	C. MIDDLE SCHOOL	D. HIGH SCHOOL
1. Describes different ways and settings in which one has learned in the past.	1. Identifies alternate learning strategies.	1. Relates potential secondary and post-secondary educational patterns to potential careers.	1. Develops a personal tentative career related educational plan.
2. Describes new tools for learning being developed in school.	2. Tries out one or more learning strategies to achieve a defined learning goal.	2. Relates personal interests and aptitudes to potential education/career options.	2. Reality tests personal education/career plans in appropriate education/work settings.
3. Applies what is learned in school in both classroom and non-classroom settings.	3. Demonstrates an awareness of his/her increasing skills and knowledge.	3. Applies academic and interpersonal skills in simulated and actual work settings.	3. Evaluates any discrepancies between present educational/occupational expectations/aspirations.
4. Identifies sources of information on expressed areas of interest.	4. Identifies specific knowledges and skills needed to function effectively in school, home, and community worker roles.	4. Evaluates alternative secondary education plans in light of present interests and abilities.	4. Develops tentative future educational plans based on interests, aptitudes, needs, and present occupational expectations and aspirations.
5. Identifies skills and knowledges of school and community workers.	5. Identifies worker roles related to personal interest areas.		

IV. LEARNING ABOUT WORK AND OCCUPATIONS

A. PRIMARY	B. INTERMEDIATE	C. MIDDLE SCHOOL	D. HIGH SCHOOL
1. Identifies the work related contributions made by several home, school, and community workers.	1. Describes effects on self and others of work habits and attitudes of school and community workers.	1. Compares work values across cultures and time.	1. Compares balance of work, family, leisure, religious, civic and other pursuits of persons in careers of high interest/aptitude.
2. Describes contributions he/she is making as a worker in the home and school.	2. Describes potential satisfactions and dissatisfactions associated with different kinds of work.	2. Describes potential relationships between work, leisure, and life style for several selected careers.	2. Relates present and projected life style preferences to selected careers.
3. Describes work functions of significant persons.	3. Compares occupations of interest in different fields in terms of training and ability requirements.	3. Compares authority, responsibility, rewards, and educational requirements in selected careers.	3. Compares prerequisites, demands, promotional, and reward structure of careers of interest in different kinds and sizes of organizations.
4. Describes the effects on self and others of productive and counter-productive actions and attitudes in the classroom, the school, and the home.	4. Describes major changes which have and are taking place in the structure and nature of the work world.	4. Uses participation in simulated and real work settings to reality test and expand knowledge of occupational fields of interest.	4. Expands occupational and organizational knowledges and skills through part-time work or work internship experiences.
5. Describes changes he/she has made or would like to make both personally and in his/her home and school environment.	5. Compares definitions of work across cultures and time.	5. Describes trends in career fields of interest.	5. Acquires technical and employability skills generalizable to several related education/career options.

at the High School level, item 3 reads: "Assumes responsibility for personal control of educational and career planning."

This listing and grouping of career development learner outcomes forms the base for determining the teacher competencies needed in career education.

Generic Teacher Competencies

The next stage of this project was to list and describe the generic competencies needed by classroom teachers (K-12) who are expected to assist learners to acquire the career development outcomes listed on the matrix.

An underlying assumption of the following generic competencies is that the term "assist" includes one or more of the following general teaching competencies:

1. determines the needs of the learner;
2. plans activities for the learner;
3. selects appropriate materials for instruction;
4. employs a variety of teaching strategies appropriate to the situation;
5. employs a variety of evaluative procedures appropriate to the situation; and
6. utilizes feedback to improve the teacher's professional competence.

Paralleling the four major areas of the K-12 Career Development Matrix, the following four generic teacher competencies in career education were agreed upon by the project team as necessary for those who seek to modify teacher preparation curricula.

Competency #1:

ASSIST STUDENTS TO DISCOVER THEIR CHARACTERISTICS (WHAT AM I LIKE?), TO UNDERSTAND REASONS FOR THESE CHARACTERISTICS (WHY AM I THAT WAY?), TO

SEE WAYS IN WHICH THESE CHARACTERISTICS CAN BE CHANGED (HOW CAN I CHANGE?),
AND TO SEE WAYS IN WHICH THESE CHARACTERISTICS ARE CAREER-RELATED.

The teacher education student should develop skill in relating subject content and teaching procedures to personal characteristics of students, to explain the cultural and environmental influences on those characteristics, help students assess themselves, provide adequate feedback about student academic performance, and help students identify alternatives that are viable for them.

At the primary level, teachers should help students differentiate and describe characteristics, both physical and non-physical, identify and demonstrate awareness of the importance of elements of personal control and show a growing awareness of the rights of self and others through demonstration of increasing ability to both work independently and in small groups.

At the intermediate level, teachers should assist students in the identification of positive personal characteristics in self and others and in the relating of these characteristics to requirements of specific situations. Students should be helped to see the personal responsibilities associated with alternate behaviors in these situations. Teachers should help students build upon the foundation acquired in the primary level in both independent and group situations both in terms of effective behavior and respect for the rights of self and others.

At the middle school level, students should be assisted in the clarification of self characteristics, particularly in work-relevant situations and in the identification of realistic self-improvement goals. Teachers should also assist students in the assumption of greater control over their environment and their behavior in dependent, independent, and interdependent situations. Responsible defense of the rights of self and others is also an important area of development at this level.

At the high school level, teachers should assist students in relating self characteristics which they have reality tested through work experiences to identified employability characteristics. Along with assumption of personal control of educational and career planning by students, teachers should help them in the development of plans for achievement of realistic levels of personal competence in both employment and employability characteristics. An additional area in which high school teachers may assist students in understanding self in relation to careers is in relating their personal values to work, especially in terms of the dependency/autonomy requirements of selected potential careers.

To satisfy this competency, the teacher trainee would need background information about: developmental stages; individual differences, including racial and sexual differences; human relations skills; occupational clusters; the world of work; economic principles; the skills needed to guide value clarification and role-playing; and life styles. He must then be able to apply these concepts to career education.

Competency #II:

ASSIST STUDENTS TO USE PROBLEM SOLVING SKILLS IN MAKING CAREER-RELATED DECISIONS.

One's life is influenced by the decisions made by himself and others. Decision making is part of a problem solving process which can be taught. A number of decision making/problem solving models have been proposed. Most, however seem to include the following skills: recognizing and defining a problem; gathering information; developing alternative solutions; developing criteria for evaluation which includes values clarification; evaluating alternative solutions; making decisions; and evaluating decisions. These skills do not necessarily occur during a problem solving process in a fixed sequential order. After a decision has been evaluated, it is expected that the process would be continued as a result of this evaluation.

Teachers function in at least two ways to help students attain and apply these skills by:

- (1) teaching problem solving skills as they relate to different areas of teaching, school, and community life; and
- (2) relating problem solving skills to educational and career decision making.

At the primary level, teachers may assist students in moving from the recognition of situations which allow alternate courses of action to the recognition of personal choice situations and situations in which one is affected by choices made by others. Building upon this base with the teacher providing practice in making basic classroom choices, students should be assisted in the recognition of how their choices affect themselves and others and in identifying factors which may affect choices. The teacher should encourage continuing examination of the consequences of student choices.

At the intermediate level teachers may provide expanded decision making practice and analyses including identification of factors specifically affecting school and work-related decisions, the effect of age and experience on decision-making rights and responsibilities, and the impact of personal values on the process. Students should be assisted in the application of one or more problem solving models in making school-related decisions including an examination of the projected consequences of various options. Teachers should also provide guidance to students in group decision making situations.

Assuming students have participated in the basic problem solving and decision-making experiences described for the primary and intermediate levels, middle school teachers should begin to guide continuing experiences more specifically toward education and career-related decision making with an increased focus on present-future relationships. Students should be

assisted in the identification of the decisions and their sequence prerequisite to occupational entry in a number of fields and levels and identification and evaluation of information sources important to these processes.

By providing simulation situations in which students are encouraged to make education/career decisions, the teacher can encourage students to practice career information seeking skills. Teachers at this level should help students begin to assume responsibility for their personal educational and career planning by carrying out the above processes and by having students describe and discuss these responsibilities.

High school teachers should assist students in the development of several tentative alternative education/career plans and in beginning to focus on evaluation of alternatives at identified decision points in these plans. Coupled with these planning and evaluation processes, students should be encouraged to seek and evaluate the opinions and feelings of significant others toward the identified alternatives. By this point, many students can be expected to demonstrate acceptance of personal responsibility for making career related decisions and to institute action toward accomplishment of tentative career plans. Teachers may be of help to these students by assisting in their placement in educational or work situations facilitative to their career plans.

Prospective teachers will need a particular knowledge base to satisfy this competency including background information on available career choices, career resources, creative problem solving, values in teaching, and consideration of the rights of others.

The teacher should be able to demonstrate specific skills in this competency to include problem solving, values clarification, group process, and relating problems within the school setting to the problem solving process.

Competency #III:

ASSIST STUDENTS TO SEE AND DEVELOP CLEAR RELATIONSHIPS BETWEEN WHAT THEY ARE BEING ASKED TO LEARN IN SCHOOL AND POTENTIAL FUTURE CAREERS.

The teacher education student should develop to a high degree the ability to recognize career related implications of the content and skills being taught. More specifically the competency involves skills in: (1) seeing problems (cognition of semantic implications); (2) asking pertinent questions (conceptual foresight as in having anticipations, in being aware of consequences, and in making predictions); (3) thinking of possible jobs (divergent production of semantic implications, skill in elaborating upon given information, and suggesting alternative deductions); and (4) recognizing and producing behavioral implications (ability to predict what is most likely to happen next in a sequence of behaviors).

The primary teacher serves a critical role in the development of a foundation for the processes and attitudes important to the dimensions of school/career relationships. Although a first assumption might be that this dimension is primarily one of the teacher constantly relating course content to selected careers, the intent here is that teachers assist students in the development of the attitudes, knowledge, and skills for continuing inquiry as opposed to superficial teacher-centered instances. Some of the ways in which the primary teacher may assist students include: (1) helping them to identify ways and settings (school and non-school) in which they have already learned important and interesting skills and knowledge, (2) to identify skills and knowledge of school and community workers, and (3) to identify sources of information in areas of interest. The primary teacher may also provide learning experiences which call for the direct application of present school learning in concrete classroom and non-classroom settings.

The intermediate teacher may assist in this continuing process primarily by providing a learning environment in which a wide variety of learning strategies are identified, practiced, and evaluated. Students should be supported in the process of identifying knowledges and skills related to several life roles including worker roles of interest to them at this point in their development.

The middle school teacher should help students in the examination of alternative secondary and post secondary educational patterns in terms of their relationship to potential careers and the students' present interests and abilities. Simulated, and when appropriate and possible, actual work settings should be made available wherein students can apply both academic and interpersonal skills.

At the high school level, students should be assisted in the development of personal career-related educational plans. Reality testing of such plans in appropriate educational and/or work settings should lead to student evaluation of discrepancies between educational/vocational expectations and aspirations.

To satisfy this competency the teacher trainee would need background information about the world of work, predictions of future trends in the world of work, social change, racial differences, and racial stereotyping, ethnic minority differences, sex differences, and sex stereotyping, the effects of excessive deprivation and various exceptionalities, learning styles, human abilities, and developmental characteristics of children. They would also need to see the implications for careers of these kinds of information.

The teacher trainee would need a varied repertory of teaching methods. Some of the more important of these would be:

1. Skills in provocative questioning to cause students to think of information differently and to see career implications.
2. Skills in some disciplined, deliberate method of creative problem solving (e.g. Osborn-Parnes model, DeBono's model, Synectics).
3. Skills in producing sociodrama as a creative problem solving process with production techniques which emphasize seeing and testing implications.

The primary teacher can assist students in the identification of work-related contributions made by the student and by home, school, and community workers. A beginning focus on work habits and attitudes can be facilitated by having students describe and discuss basic work functions of significant persons and productive and counterproductive actions and attitudes in classroom, school, and home. Students should be encouraged to propose both personal and home or school environmental changes which may lead to more effective or harmonious work functioning.

At the intermediate level, students should be encouraged to analyze effects on self and others of work habits and attitudes. The teacher can help students begin to analyze potential personal satisfactions, training requirements and ability requirements of different kinds of work. Students may be helped to formulate basic definitions of work and work values by comparing definitions of work across cultures and time and by studying major changes which have and are taking place in the work world.

At the middle school level, teachers should assist students in a continuing focus on work attitudes and values by comparing work values across cultures and time, by exploring work, leisure and life style relationships and by comparing authority, responsibility, rewards, and educational requirements for selected careers of interest to students. Increased knowledge of self and the work world may be facilitated through participation in simulated and real work world settings and through analysis of trends in career fields of interest.

At the high school level, teachers should continue to assist students in their examination of life style-work relationships through comparisons of the balance of work, family, leisure, and other pursuits of persons in careers which are of high interest to the students. Students should begin to critically analyze their own life style preferences at the present time and project potential future preferences. Students may be assisted in acquiring additional work-related knowledge, skills, and attitudes through comparisons of prerequisites, demands, and reward structures, and through participation in part-time work or work internship experiences. Through the high school years, students should acquire both technical and employability skills which are generalizable to several related educational/career options.

Teacher Learning Objectives

The four generic competencies described above are broad and difficult to assess. As a guide to college curriculum planners generic learning objectives for each of the four competencies are provided. These generic learning objectives provide a focus for specific instructional content and procedures in the teacher preparation classes.

Listed below are the four generic teacher competencies with their related learning objectives:

Competency I - ASSIST STUDENTS TO DISCOVER THEIR CHARACTERISTICS (WHAT AM I LIKE?), TO UNDERSTAND REASONS FOR THESE CHARACTERISTICS (WHY AM I THAT WAY?), TO SEE WAYS IN WHICH THESE CHARACTERISTICS CAN BE CHANGED (HOW CAN I CHANGE?), AND TO SEE WAYS IN WHICH THESE CHARACTERISTICS ARE CAREER RELATED.

Related Learning Objectives:

1. Help students assess themselves. For example. . .
 - a. Help students to see themselves in the world of work
 - b. Plan values clarification activities
 - c. Provide feedback to students on academic performance
 - d. Help students to develop a personal definition of success.
2. Explain cultural and environmental influences on student characteristics. For example. . .
 - a. Explain how specific careers contribute to satisfying individual, family school and community needs
 - b. Help learners value divergent elements in society
 - c. Identify society's biases about careers and the implications of those biases
 - d. Understand trends in life styles.
3. Relate content, teaching procedures and careers to personal characteristics of students. For example. . .
 - a. Plan activities in which learners observe life styles that accompany various occupations
 - b. Plan activities which will result in positive self concept of learners.
4. Help students identify and pursue alternatives that are viable for them. For example. . .
 - a. Set up work experiences for learners
 - b. Help learners find a balance of work and leisure for themselves.

Competency II - ASSIST STUDENTS TO UTILIZE PROBLEM-SOLVING SKILLS

IN MAKING CAREER DECISIONS.

Related Learning Objectives:

1. *Demonstrate knowledge and skill in problem solving and plan activities in which learners use problem solving skills. For example. . .*
 - a. *Create situations in which learners make choices and evaluate those choices both individually and in groups*
 - b. *Develop ways learners can experience how others' decisions affect them and how their decisions affect others.*
2. *Relate problem solving to career decision making. For example. . .*
 - a. *Identify the elements necessary for making, evaluating, implementing, and changing career decisions*
 - b. *Plan activities in which learners evaluate a variety of career choices*
 - c. *Assist learners in seeing that they have control over their career choices*
 - d. *Help learners in personal goal setting.*

Competency III - ASSIST STUDENTS TO SEE AND DEVELOP CLEAR RELATIONSHIPS

BETWEEN WHAT THEY ARE BEING ASKED TO LEARN IN SCHOOL AND POTENTIAL FUTURE CAREERS.

Related Learning Objectives:

1. *Recognize possible problems in applying school learning in future careers*
2. *Ask pertinent questions about the applicability of school learning in future careers*
3. *Elaborate school learning and suggest alternative deductions involved in applying such learning in future careers*
4. *Predict what is likely to happen when school learning is applied in future careers.*

Competency IV - ASSIST STUDENTS TO DEVELOP CAREER-RELATED PERSONAL

AND INTERPERSONAL SKILLS.

Related Learning Objectives:

1. *Exhibit a familiarity with the world of work including its history, current state, and the ways in which it is organized. For example. . .*
 - a. *Demonstrate knowledge of a wide variety of career choices*

2. *Identify, develop, and demonstrate work habits related to specific careers*
3. *Develop procedures for identifying and analyzing community resources and job settings*
4. *Plan activities in which learners gather information about a variety of careers.*

Subject Area Objectives

The preceding list of competencies and learning objectives provide a broad guide to the curriculum planner and the individual faculty member involved in teacher preparation. A third level of objectives is suggested for each subject field and for the various teaching levels. For example, a teacher of educational psychology might consider Competency II - ASSIST STUDENTS TO UTILIZE PROBLEM-SOLVING SKILLS IN MAKING CAREER DECISIONS, Learning Objective 2a. *Identify the elements necessary for making, evaluating, implementing, and changing career decisions* as a competency and objective for the prospective teachers in his class. One topic in educational psychology is motivation. The instructor might wish to use career motivations of workers as an avenue to achieving his objectives. It could be assumed that having prospective teachers interview workers would contribute to the prospective teachers understanding of the topic of motivation. Learner goals in the educational psychology class related to Competency II, Learner Objective 2a could be:

1. *Improve skills in interviewing and planning for interviewing.*
2. *Apply theories of motivation in designing and conducting an interview of a worker about his/her career motivations.*
3. *State the relationships between theories of motivation and interview data from a worker.*
4. *Describe the role of motivation in career decisions.*

It is not the purpose of this publication to specify the subject area/teaching level career education goals. These must be the product of and have the commitment of the individual faculty member responsible

for a specific course. For examples of ways some professors have revised teacher preparation courses, see the publication HELPING PROSPECTIVE TEACHERS ATTAIN CAREER EDUCATION TEACHER COMPETENCIES. This is a collection of reports of seven professors which present the rationale for infusing career education in their classes, course outlines with career education goals, teaching strategies, and techniques for evaluation. The seven teacher preparation areas for which examples are provided are: educational psychology, elementary education, teaching of the mentally retarded, agricultural education, English, science, and social science education.

Figure 1 shows in graphic format the conceptual framework of the University of Georgia process for determining goals for preparing teachers with a career education emphasis.



FIGURE 1